THE HOUSE AND ITS BONDING CHANNELS:

A Study of the Spiritual Capacity of House Elements

by

Judith Louise Hundley Bowen
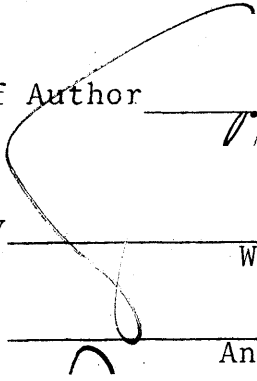B.A.E.D., University of Washington
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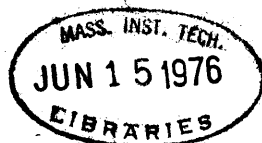
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ABSTRACT

THE HOUSE AND ITS BONDING CHANNELS:
A Study of the Spiritual Capacity of House Elements

by: Judith Louise Hundley Bowen

Submitted to the Department of Architecture on May 15, 1976
in partial fulfillment of the requirements for the degree of
Master of Architecture.

After all us kids were grown and gone, and our parents
had a little more money to do with as they would, they sold
the rather dumpy little place where we had grown up and bought
a newer house--a better house, a house that was closer to
where they both worked, and closer, too, to the American dream
ideal brick ranch. It had a split-rail fence and other real-
estate ad amenities. They have lived there for nearly ten
years now; yet my father confessed to me last summer that he
still didn't "feel at home" in the "new" place. "Why," he
commented with some surprise, "I felt a lot more at home in
the old place in Amelia than I do here." His surprise at this
point was not unjustified; he was not even "from" Amelia--we
had been transplanted there when I was about nine. In fact,
Amelia had been our "home" for no more than about the same
time period--ten years. Yet somehow, over the course of those
ten years, a place-attachment had been formed; my father had
become rooted there, had claimed himself a home.

In this thesis, I present a theory about this kind of
place-attachment, about feeling-at-home. As architects, we
need to ask ourselves how and why a bond of love between man
and his environment comes about; we must wonder, particularly,
if this bond has anything to do with our architecture. As
human beings, as persons interested in the well-being of our-
selves and others, we should consider a preliminary question--
why place-love should come about; does our humanity require
us to have, or want to have, these feelings?

The first part of the thesis deals with this preliminary
question in personal, philosophical terms: it contains a dis-
cussion of my own beliefs that place-bonding is a philosophi-
cal and psychological human need. From this follows a basic
assumption--the idea that place bonds may be generated by the
associative or cognitive meanings that people find in spaces,
places and architectural elements. We can believe in a place
as a home when it has "good" meaning for us, when we can latch
onto something which is clear and comprehensible to us, when
we find that what is there is consistent with what we think
should be there--in essence, when our environment reinforces

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our values and our understanding.

The second part of the thesis considers the architectural question, focusing upon the role which the physical house environment plays in encouraging, allowing, discouraging or prohibiting affectionate attachments between individuals and their home-places. The work in this part is based upon an analysis of a number of housing research studies; it explores the receptivity of certain spatial and physical elements, in certain contexts, to positive meaning investiture.

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ACKNOWLEDGEMENTS

DEDICATION

I once knew a very good person, my teacher and my first
mentor, a saint, or at least I thought him a saint, who
spent his life loving people--all of them, those he knew and
those he didn't know, those who loved him back and those who
didn't love him back, individually and en masse--indiscrimi-
nately, one might say, but not really, he loved them all and
made no secret of it. He was the first real "humanist" I
knew, who behaved as though it were academically respectable
to have reverence for the human soul, who loved architecture
because it was for the people he loved. Because I love them
too, I dedicate my thesis to this gentle person, and to those
like him who care for holy humankind.

"Consider, Oh Consider what we are!
Consider what it is to be a man--
He who makes his journey by the glimmer of a candle;
Who discovers in his mouth, between his teeth, a word;
Whose heart can bear the silence of the stars--that burden;
Who comes upon his meaning in the blindness of a stone--

. . . . .

Marvels men have made, Oh marvels!--and our breath
Brief as it is: Our death waiting--
Marvels upon marvels! Works of state--
The imagination of the shape of order!
Works of beauty--the cedar door
Perfectly fitted to the sill of basalt!
Works of grace--
The ceremony at the entering of houses,
At the entering of lives..."

From: "The Sheep in the Ruins,"
The Collected Poems of Archibald MacLeish
(Boston, 1962), pp. 173-174, lines 26-31, 34-42

THE HOUSE

AND ITS BONDING CHANNELS

by: JUDITH BOWEN

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PREFACE

"That people could come into the world in a
place they could not at first even name and
had neven known before; and that out of a
nameless and unknown place they could grow
and move around in it until its name they
knew and called with love, and called it
HOME, and put roots there and love others
there; so that whenever they left this place
they would sing homesick songs about it and
write poems of yearning for it, like a lover..."[1]

This thesis is about people and their homes; it repre-
sents an effort to understand the bonds that Goyen talks about
with what seems to be reverence and profound wonder. It is
his awareness, and mine, that the origin of these bonds can
only be termed "love"; indeed, man does love his home "like a
lover," and with that love transforms a house, a built object
seemingly like so many other built objects, into a spiritual
being, the abode of his soul.

How it happens that these bonds of love, intense and
powerful love, can form between people and houses; what the
existence of these bonds implies in terms of people's percept-
ions of quality, richness, and meaning in life; what man's
need to engender these bonds implies for the form of contemp-
orary housing architecture: these seem to be crucial questions
which must be thoughtfully considered, if not finally answered,
by those who would provide housing for modern man.

These are the questions I would like to address, real-
izing that my remarks for the most part will not be final and
authoritative so much as they will be subjective, reflective,
speculative. It is my hope that an honest and careful, albeit

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[1] William Goyen, House of Breath, quoted in Gaston
Bachelard, The Poetics of Space, trans. Maria Jolas (Boston,
1969), p. 58

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subjective, evaluation of the how's and why's of people's feelings about their homes will enhance my own appreciation for each person's subjectivity; indeed, it is my belief that only in this way will I begin to establish a basis for dealing with people on their own terms, which are the only proper terms.

Thus I offer no apology for this degree of subjectivity in my approach. It seems to be the one approach which recognizes, humbly and reverently, the right of each individual to be subjective; and as such, is the one approach which can appropriately deal with those things that, finally, can be known only within the soul of individual man.

The love of a person for his home is such a thing, a personal thing, a special thing, a thing that is never exactly the same for any two different people. The commonly understood meanings evoked by "old sayings" such as "Home Sweet Home," or "Home is where the Heart is," escape none of us; yet these common and universal sentiments find visual and physical expression in an infinite variety of colors and materials, plantings, furniture, and other props and accoutrements; we know that people decorate, maintain and care for their homes in all kinds of very individual ways.

We can speculate on why these things happen and what they mean. We can imagine these feelings that other people have for their homes by observing what they say and do, because to the degree that we share man's spiritual inheritance, we have experienced similar feelings. But our understanding has limits. We can understand, hopefully, the motivation behind the bond of place-love, and provide for its expression, but we must stop short of expressing this bond for any but ourselves. It is each individual, finally, who must love, express his love, know the depth of his own love. We can empathize, but we cannot feel or express for others; we can only respect the myriad degrees of love and acknowledge the

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right of each individual, indeed, the urgent need of each in-
dividual, to express his bond of love in his own way.

Part I of this thesis is highly personal; it is included
to give the reader an understanding of my own philosophical
bias in the interpretation of the material in Part II. Cer-
tainly the research material which is used to support my con-
clusions in this second part may be explained in many, many
ways; the singular way in which I interpret this material here,
and the theory I build using it as a basis, is integrally re-
lated to my own feelings about people and what they are,
places and what they mean. The reader deserves an understand-
ing of my approach; yet it is my hope that the more analytical,
and perhaps more scholarly, content of Part II will be useful
to persons who do not share my preliminary outlook as well as
to those who do.

Throughout, I will be using the term "man" in the generic,
inclusive sense. In some instances, it will be used synonym-
ously with "humankind"; in other instances it will be used to
indicate the developed person whom Abraham Maslow speaks of
as healthy or "self-actualized."[2] It is my feeling that all
human beings of reasonably normal mental capacity have the
potential to become such fully developed, integrated persons;
and it is this process of becoming, through the establishment
of a complete and complex set of psychological bonds, a stable
meaning network, that concerns us in this study. In consid-
ering how the house facilitates the growth of this network,
which is accompanied by the psychological growth of the indiv-
idual, I will on occasion use the term "man," and will intend
thereby to include men, women and children alike, in their
potentiality more than in their actuality.

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[2] See Maslow, Toward a Psychology of Being, (New York,
1968), for his description of this healthy individual's psych-
ological growth process.

The house I will refer to not as the physical space which exists inside dwelling unit walls, nor as the physical space which is defined by fences or lot lines, but as the psychological space of the individual's rootedness, plus the psychological extensions into space which the qualities and attributes of the primary house space can logically influence.

Thus in real terms, we find that the totality of spatial existence can properly be discussed within the limits of our subject matter; qualities and attributes of his house can without question influence the degree to which an individual perceives himself to be a world citizen or a participant in a universal order, to "belong" to a certain place within a spatial totality. This is the very largest scale of "belongingness" which the human being experiences; within this macrocosm we can identify a hierarchy of less inclusive spatial realms to which the individual also "belongs."

These spatial gradients are of considerable importance in the organization of human orders; we think of ourselves spatially as being from a certain neighborhood, from a certain city, from a certain country. Yet we may acknowledge our belongingness to one level of spatiality without feeling similarly tied to the whole of the larger level which contains this level; we may even feel less tied to the larger level because our first loyalty is to the smaller level. This is so because a tie which we feel to a level which is less than the most inclusive level is simultaneously a non-tie to equivalent spatial and organizational zones; a feeling that we belong to one city emphasizes that we do not belong to another city, a feeling that we belong to one country precludes a full sense that we belong to all other countries as well. This being the case, the house's effectiveness in encouraging a feeling of being bonded to one spatial level does not insure its effectiveness at another level; in fact, the converse is often true.

In general, I will limit discussion to the dwelling unit's interaction with its more immediate surroundings: the "close"

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neighborhood, the block neighborhood, and the community. Reference to psychological extensions of belongingness at urban, regional, national and world levels will be brief and superficial; however, it seems reasonable to make note of the fact that interaction does occur between the dwelling unit and these levels of spatiality, and that this interaction can significantly influence the individual's perception of his place within the whole human family.

Such a spatial differentiation does not need to be treated so clearly in our discussion of bondedness to the non-human cosmic order; here the microcosm more readily evokes the macrocosm, and the macrocosm more readily contains the microcosm. For example, the individual who perceives himself as related to the earth, exclusive of the imposition of human organizational orders, finds his perception valid at all spatial levels; he is equally bonded to a handful of dirt and to the whole sphere of matter. In discussing this sort of bonding, which I will term "structural" bonding, I will refer to an explicit spatial differentiation only where it seems necessary to do so.

I began this study in hopes of arriving at a set of information that would be helpful to the designer of houses; more especially, I wanted to consider deep human generalities which could prove valuable in the design of houses (homes, living spaces, dwelling units) for non-specific users. Certainly I have by no means identified any long-sought and elusive design absolutes; on the contrary, my study has served to reinforce my previous opinion that there can be no rote method for mass-producing dwellings that are psychologically warm and wonderful as well as structurally sound and efficient. The thoughts and information which I present here are therefore not to be taken as deterministic; rather, they represent a frame of mind, a design philosophy, which can hopefully serve to identify certain elements and kinds of elements which

are of overriding psychological importance, and which conse-
quently require particular design attention.

Judith Bowen
M.I.T.
May, 1976
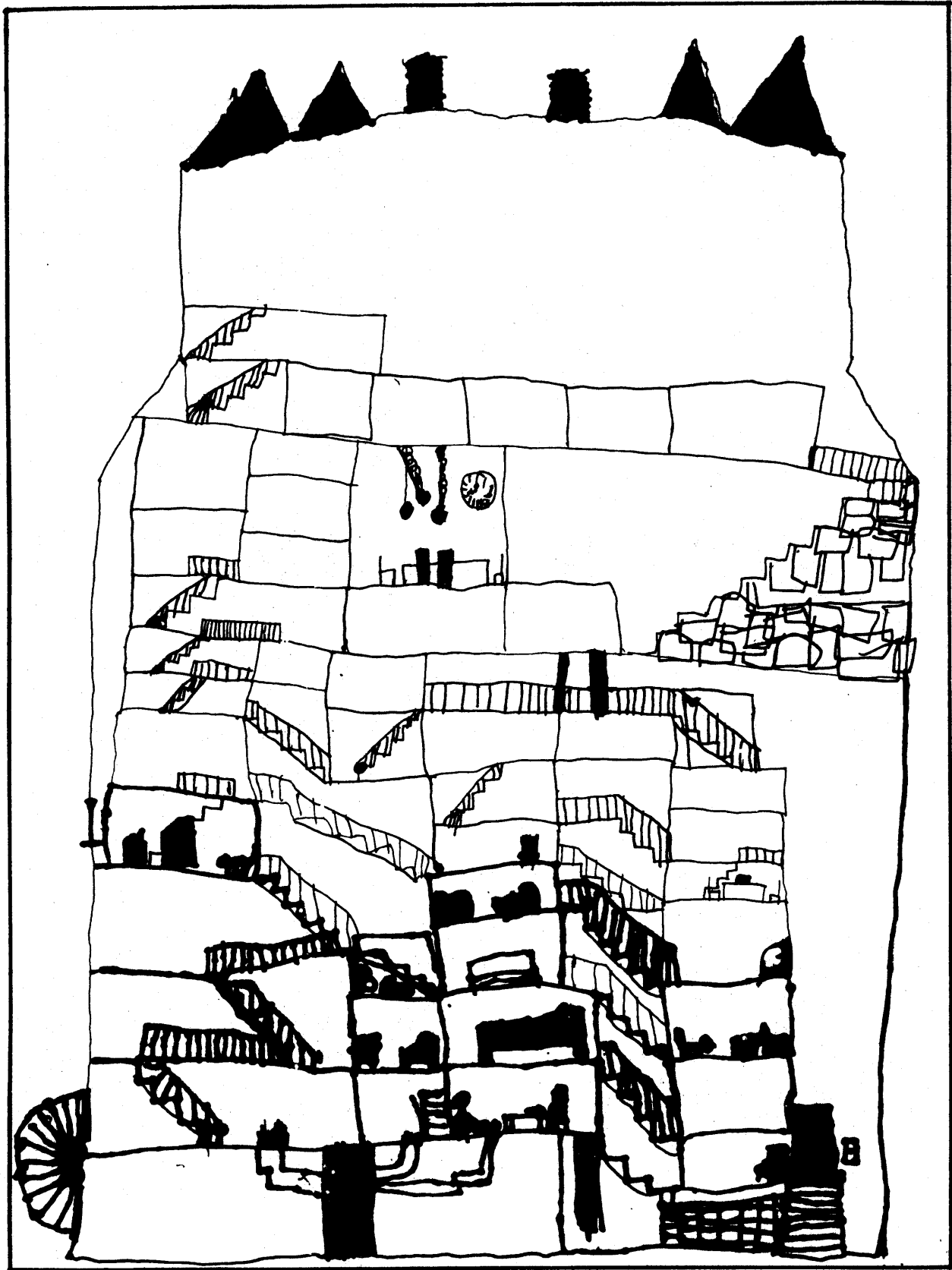
A VERY FINE HOUSE...

THE HOUSE AND ITS BONDING CHANNELS:
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PART I: EXISTENTIALISM AND THE HOUSE
A Discussion of Assumptions

"OUR HOUSE IS A VERY VERY VERY FINE HOUSE..."
                                Crosby, Stills, Nash and Young

Our House is the one...the one with the blue shutters,
the one with a wrap-around porch, the only one on the street
with a big tree in the front yard, the only one...You will
know it; it is just beyond the curve in the road, near the
top of the hill, with its roof coming down low...on the right,
it is the yellow one, it has awnings, window boxes, a red door.
It is special, not like any other house. It is the one that
is ours, so you will know it when you see it.

This is the house, our house, that roots us, that builds
itself up around our place in the world, gives it levels,
gives it enclosure. It is like other houses that give places
to other people who are our people. Perhaps we live in a
place where all the houses are made of brick, because we are
a brick kind of people; or perhaps we are a more victorian
kind of people; or perhaps we are the kind of people who need
"a little nest that's nestled where the roses bloom."[1] We
may want to make it very much like other houses; we may want
to color-coordinate our neighborhood, saying thereby that we
belong (belong!) to a close community of others like us--we
are not the only ones.

Or we may want it to be as unique as we feel we are--we
may want it to be purple in a neighborhood of white houses,
or tres contemporain, or bigger, or smaller, or higher, or
more intricate than anyone else's house. We may live in the
old estate house where all the grounds have been subdivided
and given over to little ranch houses, or in the row-house
dimensioned bright yellow international-style house (in the

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[1] Cole Porter, "My Blue Heaven"

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300 block of Marlborough Street, Boston, Mass.) that shares walls on either side with 19th century brick row houses. These kinds of houses say emphatically that we <u>are</u> the only ones.

A house can say either, or both. It can be like others outside, and yet very special inside, as we are like others outside and very special inside; or

our house   houses of our buddies and soul-mates

it can be absolutely special, outside and in, as in fact we also are. All of the samenesses and differences we feel as human beings, the house can reflect for us.

our house   other people's houses

But how is it possible to determine where the samenesses end and the differences begin? When we consider this question as individuals, it seems parenthetical: <u>we</u> know who we are and who we are not; it is exactly this knowing that allows us to feel at home in our house. When, however, we become responsible for houses <u>other</u> than our own house--when we are designers of houses for other people, ourselves responsible for the being-at-home feeling of others--then this question becomes the absolute heart of our concerns.

It is pivotal, of course, even when we are designing but one single house for an individual whom we know personally; we need to understand first of all how this individual imagines the house to be like other houses, and second of all, how he imagines it to be special. This has to do very much with how he imagines himself to be like other people, and how he

imagines himself to be special.[2]

These feelings of likeness and specialness are no less
immediate to individuals whom we do not know personally; and
are no less intimately bound up with the qualities and attri-
butes of the houses which these unknown individuals need to
claim as homes. Yet the difficulty we have in knowing the
particulars of people's feelings is multiplied a thousand-
fold when we do not even know the people
themselves. This very difficulty stems
from the quite real differences that ex-
ist between individuals. Others really
are different from us--sometimes they seem
to be so incredibly different in appear-
ance, outlook and behavior that we find
it hard to believe in a strong basis for
commonality. We cannot begin to know the degrees or particu-
lars of such people's feelings and attitudes if we do not know
who the particular people themselves are. We may have a sta-
tistical understanding, but we are without a way to ask these
people, and they are without a way to tell us, anything about
their particular likenesses and differences.

In our attempts to design for such people, we find that
we often must adopt vague and more-or-less unsubstantiated
assumptions which stand-in for the particulars which we need.

Alternatively, we can decide not to deal with these par-
ticulars at all in finalized terms; we can bow to a recogni-
tion of our inability to predict beyond a certain generalized
realm of decision-making. This realm, in most cases, would
include neither the extent nor the manner of individual ex-
pression as it relates to the form and the functioning of a
single dwelling; the designer's responsibility would be lim-
ited to the creation of a housing framework which would max-

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[2] See Clare Cooper, "The House as Symbol of Self," work-
ing paper #120 (Berkeley, 1971)

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imize the opportunities for subsequent decision-making by in-
habitants.[3]

As designers, we
have somewhat less con-
cern then for the fact
that we do not know the
future inhabitants of
our housing, and thus

framework with infill
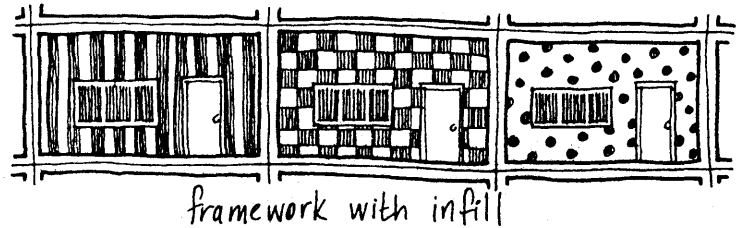
cannot make many hard-and-fast decisions for them. The res-
ponsibility has shifted; the inhabitants themselves will in-
vest the house-to-be with their own sense of human commonality
and individual specialness.

This approach is valid if we make yet another assumption:
that the individuals who eventually dwell within our housing
framework will have the time, energy, interest and expertise
to complete a living space which is specific unto them. Yet
by and large, these are not the people who concern us most
in this study; it seems likely that such vital, energetic and
decisive people will to one degree or another modify and "per-
sonalize" any living space wherein they happen to find them-
selves.

Our concern is more with the unfortunate but omnipresent
others: those who are inundated by the day-to-day requirements
of living, and who have no energy or "spare" time left over;
those whose personal and material resources are so limited
that they cannot participate in the full-scale making of their
own homes; those who are truly disadvantaged in being-at-home,
in having a home.

Are there decisions that we as designers can rightly make
for these people that will invite their being at home in a
dwelling not of their own making? To state this more in terms

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[3] This approach is described by N.J. Habraken, Supports:
An Alternative to Mass Housing (New York, 1972)

of its implications: is it possible for the housing designer to create living spaces that are "open-ended," not so much in terms of their possibilities for physical form as in terms of their associative possibilities?[4] And if so, what are the things that can be known or discovered about people, generic people, people who will live in these living spaces, that can guide us in the decisions we make? What can we say about these people?

PEOPLE WHO LIVE IN HOUSES

We have indicated that, in its ideal role as a psychological homebase, the house functions as a reflection of the individual's feelings about himself; as an expression both of his uniqueness among men, his separateness from others, and of his kinship with a larger human group. And we have indicated also that this distinction between separateness and kinship is hard to pin down; it seems to exist as a gray and fuzzy, vaguely hierarchical area, and not as a sharp line.

Across the boundaries of certain broad physically and socially defined categories of human existence, which include some people and do not include others, individuals are almost surely destined to perceive things differently and to respond differently; moreover, people who are members of these different groups perceive themselves as being different from some people and like others. Group differences are often translated by the individual in a positive way as being supportive of his own sense of separateness, his individuality; he identifies with the category that is defined to include him, and attaches his personal feeling of uniqueness to this kinship category.

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[4] See Amos Rapoport, "The Personal Element in Housing: An Argument for Open-Ended Design," R.I.B.A. Jour. (July, 1968), pp. 300-308; for a discussion of open-endedness in physical form possibilities.

Thus people who are culturally different refer to them-
selves as French or English or Arabic with personal pride;
likewise, people take personal pride in being members of diff-
erent age groups, different sexual groups, different socio-
economic groups, different neighborhood groups, different fam-
ilies, etc.[5]

We're from
Newtown!
Mighty
mighty
Newtown!

Yea Team!

We're from
Goodtown!
Mighty
mighty
Goodtown!

Yah Team!

[5] Cross-cultural differences have been powerfully treated
by: Edward Hall, The Hidden Dimension (Garden City, N.Y., 1966)
and Amos Rapoport, House Form and Culture (Englewood Cliffs,
N.J., 1969), among other authors. Hall particularly makes a
strong argument for effects of cross-cultural differences on
psychological, and even physiological, response; see esp. chs.
XI, XII, pp. 131-163.

Jean Piaget, The Child's Conception of Space, trans.
F.J. Langdon, J.L. Lunzer (N.Y., 1967) describes the very real
perceptual differences which exist between children at differ-
ent developmental stages. See P.G. Richmond, An Introduction
to Piaget (N.Y., 1970), pp. 56-59, for a discussion of Piaget's
theory that we do not see or understand the world in a "mature"
way until late adolescence. Abraham Maslow, Toward a Psychol-
ogy of Being (N.Y., 1968), extends the process of development
by stages to include the whole of a person's life--see esp.
part V, chs. 11-12, pp. 149-167. The work of these authors
indicates that persons who are of the same age/developmental
stage are more likely to "see things" the same way.

See Clare Cooper, Easter Hill Village: Some Social Im-
plications of Design (N.Y., 1975), passim; Marc Fried, "Griev-
ing for a Lost Home, The Urban Condition, ed. Duhl (N.Y., 1963)
pp. 151-170; Fried and Peggy Gleicher, "Some Sources of Satis-
faction in an Urban Slum," Jour. AIP, XXVII, 4 (1961), pp. 305-
315; Herbert Gans, The Levittowners: Ways of Life and Politics
in a New Suburban Community (N.Y., 1967), passim; Lee Rainwater,
"Fear and the House-as-Haven," Jour. AIP, XXXII, 1 (1966), pp.
23-31; for discussions of cross-socio-economic perceptual
differences.

These groupings represent differences in the life stages and circumstances of individuals; we are all members of a culture, an age group, a sex group, a socio-economic group, a family, and a multitude of other human sub-groups. In each instance, our kinship with certain persons implies our distinction from others; the full set of our kinship ties defines our distinction from all others at the same time that it defines our points of connection with others. Thus, an individual's separateness is emphasized by the uniqueness of his particular set of belonging ties.[6]
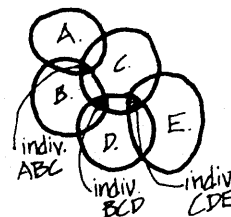
But in a deeper way, a way that does not seem to be generated by ties to anyone or anything, we feel ourselves to be irrevocably and entirely separate. We perceive and respond in ways that are uniquely our own, that depend not at all upon any groupings defined by our life stages and circumstances. Even as members of a nuclear family, which in many ways can be

thought of as our smallest and most closely-knit cultural unit, we sometimes feel ourselves to be utterly different and apart; some part of us insists that we are in no way, not even remotely, like our brothers and sisters, our parents or our children; we are only ourselves.[7]

Basic and ubiquitous character differences between individuals have been variously attributed to differences in prior life experiences, differences in glandular functioning, variations in genetic content, differences in pre-birth condit-

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[6] These human categories have been exhaustively treated by other authors; see esp. Edward Wilson, Sociobiology: The New Synthesis (Cambridge, Mass., 1975), pp. 548, 553-554, on the extent of kinship bonding among humans.

[7] Maslow, op.cit., Part III, ch. 9, pp. 126-130, calls this resistance to being thought of as "like" somebody else "resistance to being rubricized."

ions, degree of birth trauma, etc.[8] We recall the explana-
tion of the ancients which attributed these deep personal
differences to differing proportional mixes of the four ele-
mental humors; and the ancient and present-day practice of
astrology, which links these same differences to the infinitely
varied interaction between earthly and celestial happenings.

No doubt there is no single variation--physical, celes-
tial, or what-have-you--that is solely responsible for the
extreme of singularity that describes us; but rather cumula-
tive and pervasive variations in all that pertains to us as
individuals. The form of our physical presence, after all, is
infinitely varied; we look different--sometimes subtly, though
sometimes we bear physical resemblance to one another no more
than poodles bear resemblance to Saint Bernards. We would be
surprised, then, if we were all the same inside. We would
expect the variations in the ways we feel, see, think and re-
spond, as well as the reasons for these variations, to be as
endless as the variations in the ways we look; and indeed, they
seem to be.

Our separateness, our individual-
ity, our uniqueness, seem so thorough
that we begin almost to regard it as a
miracle that reliable communication can
take place at all between us and other

thus it is intuitively
obvious that...

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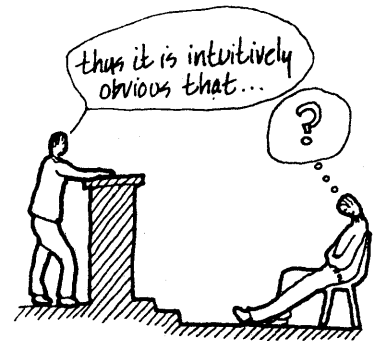
[8] Experiences (including pre-birth experiences) which in-
fluence the individual's later characteristic response are in
one way tied to membership in the groups we have mentioned
above; but in another way are purely random and accidental.

Yi-Fu Tuan, Topophilia: A Study of Environmental Percept-
ion, Attitudes and Values (Englewood Cliffs, N.J., 1974) p. 45,
mentions the functioning of the endocrine gland as a source of
temperamental difference.

Wilson, op. cit., pp. 563-564, 575, feels that even cul-
tural differences may be more linked to genetic variations than
we can at present determine. Wilson notes that only ten gen-
erations of selective breeding are required to alter predomi-
nate genetic patterns.

members of our species.[9]

On the other hand, when we consider how immensely we humans, as a group, differ from the non-human animals, we begin to feel that, perhaps after all, we do have a great deal in common with one another. The basis that we have for inter-human communication takes on a contrasting dimension of broadness and stability when we consider the following comment by human geographer, Yi-Fu Tuan:

> "All human beings share common perceptions, a common world, by virtue of possessing similar organs. The uniqueness of the human perspective should be evident when we pause to ask how the human reality must differ from that of other animals. Contrary to appearances, a person cannot enter imaginatively into the life of his dog: canine sense organs diverge too far from our own for us to leap into the dog's world of smells, sounds and sights. But with good will, one person can enter into the world of another despite differences in age, temperament, and culture."[10]

Me and my best friend
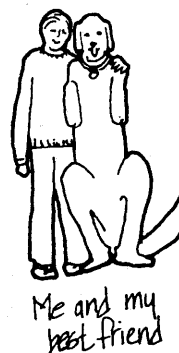
Reconsidering, we see that poodles and Saint Bernards resemble each other more than they would at first glance seem to; their experiential worlds are similarly defined and limited by the canine sense organs that they possess.

Certainly the type and range of experiences which are open to us are limited by the particular sense organs that we as humans possess: we cannot hear sounds that a dog or a bat can hear; we cannot see infrared light, or see in the dark like a cat, or see 180° at one glance; we cannot taste with our fingers, or with many different parts of our bodies at the same time. Such curious phenomena as Kirlian aura photography, extra-sensory perception, faith healing, telekinesis, lead us to reflect rather sadly that there must be a lot going on in

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[9] Maslow, op. cit., p. 14, comments that communication in any case should be regarded as a miracle.

[10] Tuan, op.cit., p. 5

the world that our species generally cannot see, or hear, or
physically sense in any way.

Even though some members of our species claim to be able
to participate directly in experiences related to the afore
mentioned phenomena, most of us can only wonder what it must
be like; and we cannot even begin to imagine what wondrous
things would enter our awareness if only we had more, new,
different sense organs. It seems a cause for regret that we
should be grouped thusly as humans by our common limitations,
our circumscribed, sense-defined access to an experiential
world.

Yet our membership in the largest, the species-inclusive
human category--our "human-ness"--is not defined solely by
what we cannot experience, but also by what, with our special
sensual and physical attributes, we can experience; our limi-
tations and our compensations act together to determine the
content of our experiential world. We cannot see in the dark,
but we can see color and depth; we cannot hear or emit very
high frequency sounds, but we can communicate with incredible
complexity and subtlty using the sounds we can make and hear--
we might imagine almost every single human attribute as simul-
taneously limiting and enriching our experience.

Throughout time, it has been of interest to philosophers,
ethologists, humanologists, and other interested and contem-
plative persons to consider what it is about humans that makes
them humans.[11] The very sim-
plistic, two-sided-coin re-
sponse which we propose to
this question is that man is
man partly because he is not
a dog, nor a cow, nor a bird;

A   B   C   D   E
match the ones that belong together.

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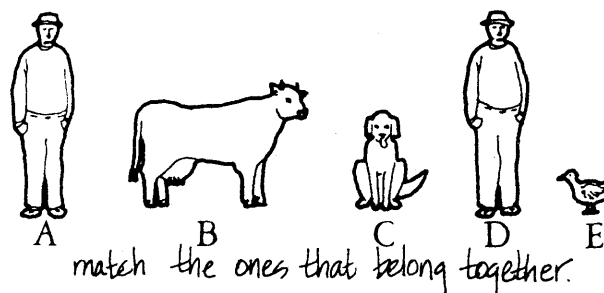
[11] It is the opinion of the author that ethologists, hu-
manologists, etc., have always existed, albeit it is only in
this era of specialization that they have been designated by
these specialized terms.

but also because he _is_ a man. He resembles others of his species in his potential experience, positively and negatively.

Part of the experiential world which is open to humankind is not exclusive, but is open to other animals as well; in gross terms, we share our five primary senses with many other animals. Another part of potential experience, however, is available only to humans, and is defined and "accessed" by specifically human characteristics. These characteristics are not necessarily sense characteristics; humanologists seem to find many other mind and body characteristics equally important in defining the "human group" and the "human experience."

The facility of human hand-thumb coordination, for example, opens a wide range of exclusive experience to mankind; the same is true of the lightly balanced vertical human stance, human preoccupation with non-reproductive sexual activity, the intricate development and use of spoken languages.[12]
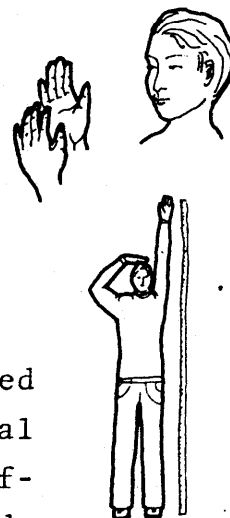
None of these human traits, however, has effected such a powerful and pervasive influence upon potential species experience as has the human _mind_, which we often find called a "rational" mind.[13] It is this mind which interests us here; all of the other human attributes perform, not alone, but in the service of the mind, coupling with it to achieve humankind's highest potentials.[14]

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[12] See Wilson, op.cit., ch. 27, esp. pp. 547-548 et passim.

[13] See Dean Wooldridge, The Machinery of the Brain (New York, 1963), ch. 8, pp. 152-153; Wilson, op.cit., p. 548; B.B. Greenbie, Sentics and Biocybernetics in the Search for an Optimum Human Habitat (Philadelphia, 1971), p.2; on frontal lobe/ neo-cortex relationship to abstraction, anticipation.

[14] See Wooldridge, op.cit., pp. 18-35, also ch. 8, esp. pp. 158-163, on brain-motor and brain-speech/language coordination. See also D.M. MacKay, "A Mind's Eye View of the Brain" Brain and Behavior 4: Adaptation, ed. K.H. Pribram (Baltimore, 1969), pp. 478-492, who claims that _people_, not brains, think and act.

The mind, of course, could not have achieved any such
potentials without compatible physical and sensual character-
istics, either; but in the fundamental analysis, the human
capacity to be rational, to plan and to anticipate, to mentally
connect cause and effect, has made possible the most complex
developments of civilization: agriculture, weaponry, building
construction, systems of movement, trade and communication--
while these may have been implemented by hands and bodies,
they are all founded upon human practical, anticipatory ration-
ality.

One might begin to think
that the "rational" mind is
the very last word in minds--
that, having achieved ration-
ality, humankind is the most
that it can be--except that
one finds a great deal of hu-
man behavior which seems to
have little or no rational ex-
planation, to be non-anticipa-
tory, non-pragmatic, non-effect
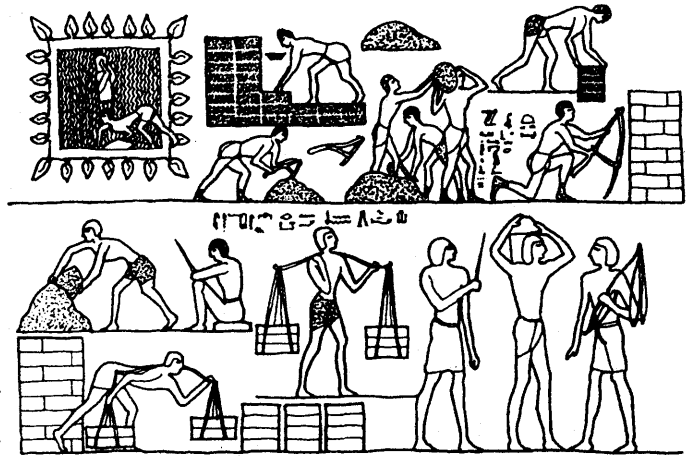
producing. There seems to be some other, equally pervasive
human capacity--one that acts in conjunction with rationality,
but that goes beyond rationality. This supra-rational qual-
ity has led to the unceasing elaboration of pragmatic develop-
ments until they have assumed forms that are nearly indisting-
uishable from pure ritual or high art; these forms may be more
accurately called "spiritual" than rational.[15]

This "something," a kind of spirituality, seems to leave
no otherwise rational aspect of man's life untouched; it is in
evidence in all his most basic pragmatic activities and crea-

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[15] We acknowledge that it would be difficult to find forms
of "pure" ritual and high art that do not have some kind of
rational, pragmatic base.

tions: producing food, eating, sleeping, being sheltered, bath-
ing, caring for children, caring for one another, are all pro-
foundly differentiated and enhanced by non-rational overtones.
We might even claim that those activities and creations which
are most fundamentally "rational" seem to be most deeply spir-
itual as well--most articulated, most refined, most elaborated.

In this sense, man is a spiritual being par excellence,
at least to the degree that he is a rational being par excel-
lence. He has never seemed content to settle
for the simplest fulfillment of his physical
needs. He does not want to dine on raw grains
from the fields, although he could perfectly
well subsist on simple, unrefined foods. He
prefers instead to simmer his food gently in
wine sauce for a long time and to eat it by
candlelight from fine china with silver utensils, or to cook
it and eat it in any number of other ritualized ways he has de-
vised.

He does not really want to live in an unadorned cave or
lean-to either, although that is certainly better than nothing.
Given his choice, however, he would prefer something a bit
more...well, just a bit more. A very, very, very fine house,
ideally. He paints and colors, hangs pictures and mementos
on the walls, chooses fabrics with patterns and textures,
plants contrasting flowers in rows and circles, mows and prunes
and arranges bricks and stones and wood in ways that are often
quite unrelated to practicality.

He craves the fine and the beautiful always, in all as-
pects of his life. He decorates and elaborates everything
that is his, bringing all his possessions ever more in line
with what he considers fine and beautiful. This is his life's
preoccupation, his labor of love which he undertakes in homage
to his own spiritual nature.

The source of this spiritual nature, this tendency to cre-

ate, refine, express and differentiate in ways that seem more than strictly rational, is, of course, a matter of theory and conjecture. While it may be thought of as being "emotional," it does not seem to be directly akin to mammalian "emotion"-- the selective, differentiating response which arises in the old cortex of higher animals as well as in the old cortex of humans.[16]

The theory that we adopt here is that human spirituality originates in the interaction of the exclusively human rational capacity and the emotional, or limbic, capacity, which is seated in the much older part of the brain. There seem to be both rational and emotional aspects to all of humanity's creations; our mind works, not in parts, but as an entity--thus nothing that we do can be purely rational or purely emotional/irrational.

Thus, while it is true that mammals, and even birds and some species of insects develop selective loyalties and perceive differentiations within their environments, man's selectivity and differentiation is very different--it has a rational, anticipatory dimension as well as a limbic dimension.[17] Human spirituality may be thought of as limbic differentiation abstracted and colored by bittersweet anticipation.

This means that man not only selectively identifies other individuals and happenings within his experiential world; he is also able to form what may be called a rationally defined "sense of self" and a corresponding "sense of non-self." His human ability to abstract allows him to construct, from an external differentiation, a differentiation of himself; while his ability to anticipate allows him to comprehend the definitive existential meaning of his own differentiation: that he

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[16] Wooldridge, op.cit., pp. 25-30, 145-154; also Greenbie, op.cit., p.2.

[17] See Robert Ardrey, The Territorial Imperative: A Personal Inquiry into the Animal Origins of Property and Nations (N.Y., 1966), passim, on animal individual and place loyalties.

is; yet that he is only within himself, a solitary and transient being in time.

He knows deeply what no other animal knows: that he is alone and impermanent, but also, wondrously, that he lives. He is self-conscious, intensely aware of his own existence, of the separateness of his own existence. He feels himself to be somehow holy, thinking that he is perhaps part-god; he feels sometimes that he may be the only true reality. Others are like him, but he is unable to experience the deepest kernel of holiness within each of them the way he experiences what is within himself; moreover, his own kernel of holiness remains largely hidden to all others. Soul-contact with those around him is incredibly rare and fleeting, and man is a lonely being.

He is filled with wonder for his god-part, which is his life, his specialness, his awareness; and filled with despair at the thought that it will end as it began, as something apart from all that he sees beyond himself...that it will end at all, since it is the most precious thing he knows.
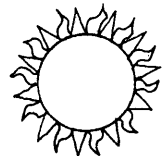
BONDS AND THE MEANING NETWORK

Feeling this existential dilemma, that he is alone but that he must not be alone, that he will end but that he must not end, man has eternally sought to tie himself to the larger, continuing whole of his perception. It is thus that he creates psychological bonds between himself and all the elements of

his awareness; he orders, establishes relationships, attri-
butes meanings, defines correspondences and analogies; and
structures all of his bonds of understanding into complex,
interlocking, layered systems of meaning encompassing all that
he can see and feel and dream of--finding his own meaning, his
permanence, his belongingness, in the definition that this
network gives to him.[18]

[18] Piaget, Intelligence, quoted in Richmond, op.cit., p.
78, says, "...intelligence...tends toward an all-embracing
equilibrium by aiming at assimilation of the whole of reality."
The construction of the meaning network is the means toward
this assimilation. In reference to various sub-networks and
sub-systems of meaning, see:

Christian Norberg-Schultz, Intentions in Architecture
(Cambridge, Mass., 1965), esp. pp. 27-82; Piaget, The Child's
Conception of Space (New York, 1967), passim: Richmond, op.
cit., passim; on schema construction, development of percep-
tual frameworks.

C.G. Jung, Man and his Symbols (Garden City, N.Y., 1964)
passim; Jung, Psyche and Symbol (Garden City, N.Y.,1958), pas-
sim; on levels of meaning, symbol systems, archetypal symbols.
See also Greenbie, op.cit., pp. 6-11, on idiologs and sentic
response; Hall, op.cit., pp. 55-59, on emotion-body temperature
relationship.

Franz Boas, Primitive Art (N.Y., 1955), pp. 64-143 et pas-
sim; Mircea Eliade, Images and Symbols (N.Y., 1969), esp. ch. 1;
G.S. Kirk, Myth: Its Meaning and Function in Ancient and Other
Cultures (Berkeley, 1970), chs. 1 & 2; Claude Levi-Strauss,
The Savage Mind (Chicago, 1962), passim; Yi-Fu Tuan, op.cit.,
pp. 13-28; on primitive ordering systems.

Roland Barthes, "The Structuralist Activity," The Struct-
uralists from Marx to Levi-Strauss, ed. DeGeorge (Garden City,
N.Y., 1972), pp. 148-154; Levi-Strauss, op. cit., pp. 1-108 et
passim; on structuralist concepts of ordering meaning relation-
ships.

Wilson, op.cit., pp. 547-555 et passim, on the pervasive-
ness of cultural systems and kinship ordering.

Christopher Alexander, "The City is not a Tree," Human
Identity in the Urban Environment, ed. Bell and Tyrwhitt (Lon-
don, 1972), pp. 401-428, on simple and complex systems of re-
lationships.

Kevin Lynch, The Image of the City (Cambridge, Mass. and
London, 1972), pp. 1-12 et passim, on the construction of an
ordered environmental image.

It is this network of order and comprehension
that we will refer to hereafter as the "meaning
network"; the existential function of this network
is to tie the individual ever more completely to
his understood cosmos. Every circumstance which
promotes order and clarity, or diminishes vague-
ness and confusion, within the meaning
network, we will designate as a "bond-
ing channel": this is quite simply be-
cause such circumstances act as "chan-
nels," or paths, or ways, which allow
the individual to establish a set of
psychological bonds.

the existential dilemma


psychological connecting channels
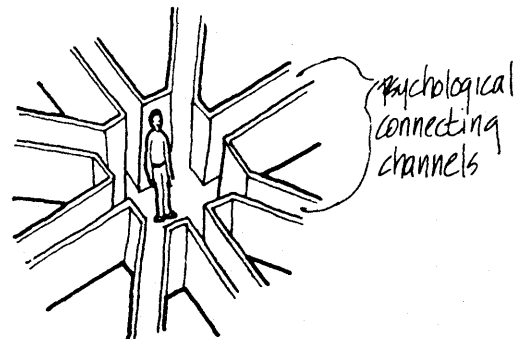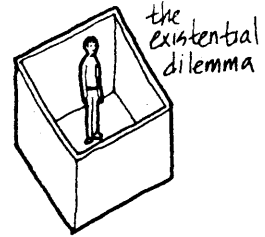
All of man's languages, his systems
of writing, literature, poetry, his mythologies and religions,
art, architecture, music, systems of law and government, soc-
ial orders, sciences and mathematics--all of the hallmarks
of his great cities and civilizations-- are employed in the
spiritual resolution of the existential human quandary. Each
of these humanly defined "systems of meaning" is continually
re-ordered and inter-related with consuming care and articu-
lation. Each forms a part, a facet, a sub-system of the ob-

Lord FitzRoy Raglan, The Temple and the House (London,
1964), passim; Rapoport, House Form and Culture (Englewood
Cliffs, N.J., 1969), passim; Clare Cooper, The House as Symbol
of Self (Berkeley, 1971), passim; on meaning systems involving
the house.

Eliade, op.cit., pp. 13,16,32 et passim; Jung, Man and his
Symbols, esp. pp. 94-103, and throughout all of Jung's works;
Kirk, op.cit., p. 2 et passim; Maslow, op.cit., pp. 174,179,
185,201, et passim; on the importance of man's psychic com-
ponent in enriching and elaborating his perception of meaning.

A common theme in creation myths (see Kirk, op.cit., p.
278 et passim) is the differentiation or separation of non-
articulated cosmic "stuff" into distinct components, the bring-
ing of order to chaos. We may interpret this as indicative of
the importance that the comprehension of order and meaning has
for man; this is the first and fundamental act which he attri-
butes to the holy powers beyond himself.

jective, potential, full
meaning network; each offers
to generic man a network of
bonding channels--opening to
his understanding a part of
his total cosmos, giving him
ways, ever refined ways, to
bond himself to it more fully
through his understanding of
its order and meaning.
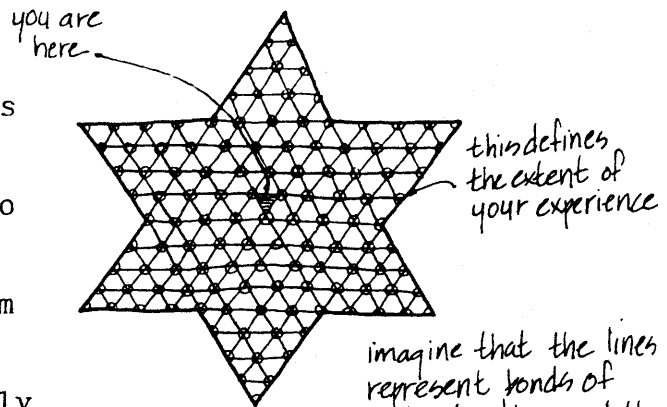
you are here

this defines the extent of your experience

imagine that the lines represent bonds of understanding, and the points represent objects or concepts understood in terms of their relationships to other objects or concepts.

Mankind makes infinite use
of whatever bonding channels he
finds available to him, and never
ceases laboring to create new channels. It is not enough for
him to make only partial use of the bonding channels which he
has; it is not enough for him to construct his world view
within a singly-dimensioned framework, or to attach himself
tenuously to the cosmos by means of a fragmented understand-
ing--like the blind man and the elephant.

He fervently explores every avenue which seems as though
it might lead to a more complete meaning network. He in-
volves all his human senses in this task--he sees, hears,
smells, tastes and feels meaning--and all his special human
attributes. His supremely artful hands, his balanced upright-
ness, his language, sexuality, rationality, emotionality--all
become the tools of his spirituality, the channels through
which he perceives and communicates meaning.

This is the point which is of interest to us in this study:
that man's spirituality, the integrated child of his ration-
ality and his emotionality, enables him to see meaning--causes
him to need to see meaning. His spirituality itself resolves
and mediated the cosmic dilemma which it initiates. Through
it, man is able to believe in his own relationship to all
things because he himself constructs the relationship of all

38.

things one to another. He thus firmly bonds himself to his
world; he is bonded, subtly but surely, to everything that
has meaning for him.

Roland Barthes, the structuralist, writes:

"...the ancient Greek...perceived in the vegetal
or cosmic order a tremendous shudder of meaning,
to which he gave the name of a god: Pan...struct-
ural man is no different from the ancient Greek:
he too listens for the natural in culture, and
constantly perceives in it not so much stable,
finite, 'true' meanings as the shudder of an en-
ormous machine which is humanity tirelessly un-
dertaking to create meaning, without which it would
no longer be human."[19]

And Camus, the existentialist, emphasizing that it is
meaning that bonds man to this world, his home, writes:

"A world that can be explained even with bad rea-
sons is a familiar world. But, on the other hand,
in a universe divested of illusions and lights,
man feels an alien, a stranger. His exile is
without remedy since he is deprived of the memory
of a lost home or the hope of a promised land."[20]

Camus' words give us a clue as to the importance of un-
derstanding meaning in forming the bonds that tie the indiv-
idual to his home, or to any place. It is, of course, the
meaning that any particular location has for us that causes
it to be experienced as a special "place," differentiated
within our minds from other places. A place which has no mean-
ing for us does not even exist as a place for us; we are not
tied to it, or cognizant of it at all.

Throughout this thesis, whenever we refer to human "bond-
ing activity" or "bond-formation," it is the psychological
act of attributing or acknowledging meaning that we will in-
tend. Basic to the development of our thought process is the

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[19] Barthes, op.cit., p. 153

[20] Albert Camus, The Myth of the Sisyphus; in Wilson,
op.cit., p. 575.

idea that the definition of the
meaning of one thing in terms
of the meaning of another--that
is, the recognition of a meaning
relationship between the two
things--acts to bond these two
things together into an
elemental structural unit.

tree-sun
bond

man-sun
bond

tree-man
bond

Thus the word "bond-
ing," in this context, en-
compasses a much more com-
prehensive array of psych-
ological ties than it ordin-
arily refers to, reserved
as it conventionally is to indicate psychological ties between
humans, or between animals of the same species.[21] We maintain
that the understanding of any meaning relationship constitutes
a "bond"; we will refer specifically to bonds between humans
as "interpersonal bonds."

BONDS

bonds between people

friends, lovers and kin
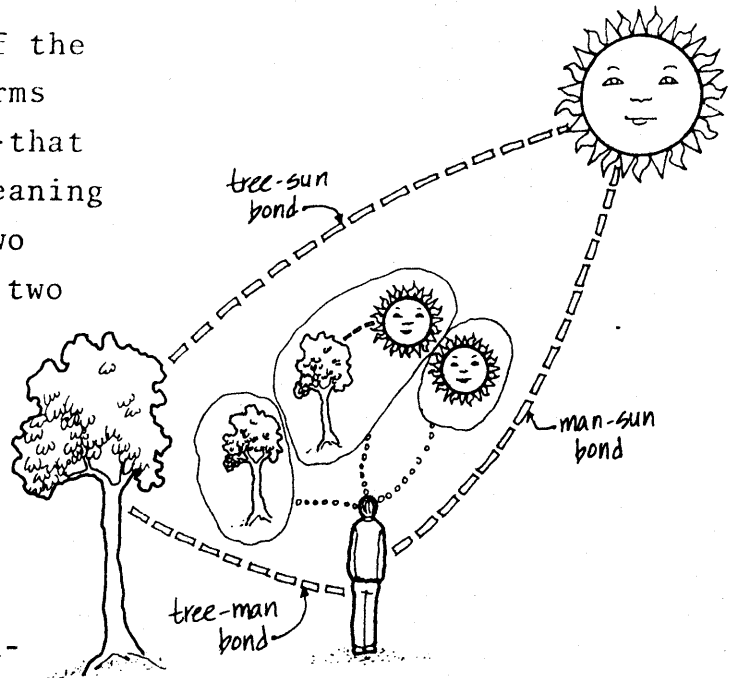
bonds between people
and other things

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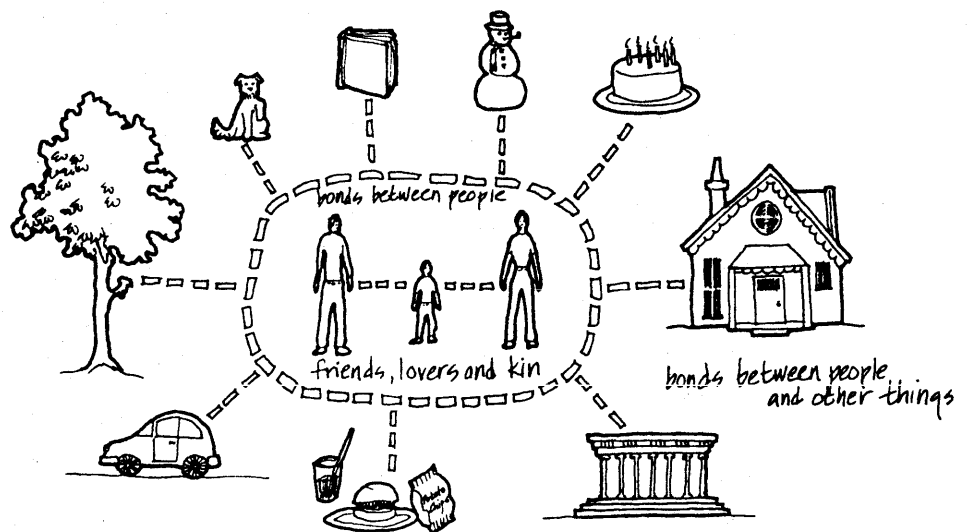
[21] See Wilson, op.cit., p. 330 et passim, who uses this
word in its conventional sense.

The infintesimal structural units which are formed through the bonding of one perceptual element to another are the building components which the individual uses to describe fully his own meaning, in terms of all other things; and the meaning of all other things--his perceived cosmos or world view-- in terms o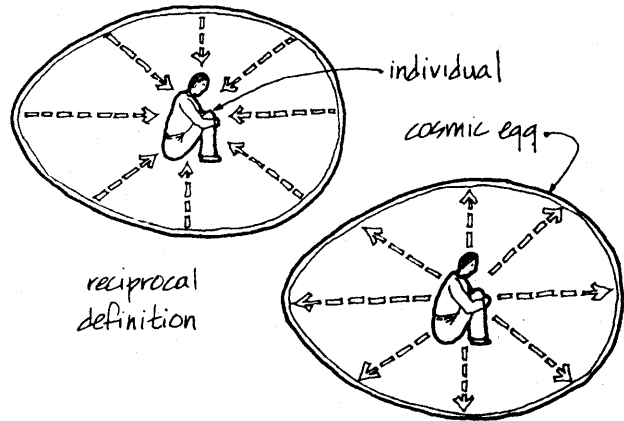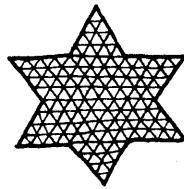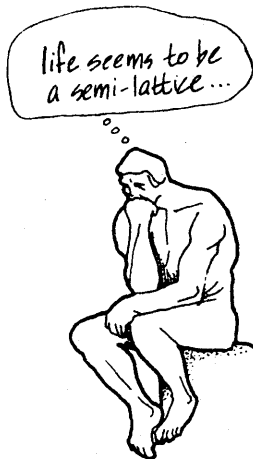f himself. It is the completely structured and interlocking system of these meaning bonds which we refer to as the meaning network.

individual

cosmic egg

reciprocal definition

The construction of the individual's meaning network proceeds from his recognition of himself as a separate and special entity, and is based upon all that is unique to him, including the circumstances and stages of his life which act naturally and/or accidentally to group him with others. Thus his personal meaning network is era-based, culture-based, age-based, experience-based, and individually idiosyncratic. It cannot extend beyond his own perceptual experience.

The individual meaning network assumes a form that can most readily be described as a semi-lattice, wherein each perceptual element may be bonded to a vast myriad of other elements.[22] The inter-relations between these elements may be so complex as to resemble a tangle. But the meaning network, at least the fully functional,

life seems to be a semi-lattice...

this is a lattice; the possible moves you might make in a chess game are a semi-lattice.

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[22] See Christopher Alexander, op.cit., pp. 403-406, for a description of the semi-lattice form; Alexander claims that this form is also the appropriate one for a "good" city.

well-developed meaning network, is not tangled: it is complete,
orderly, consistent and stable; and it is essential for the
individual's psychological health that it be so.

To understand the fundamental contribution which the
meaning network makes to the individual's psychological health,
we turn to the work of Abraham Maslow. Maslow says,

> "The state of being without a system of values is
> psychopathogenic, we are learning. The human
> being needs a framework of values, a philosophy
> of life...to live by and understand by, in about
> the same sense that he needs sunlight, calcium
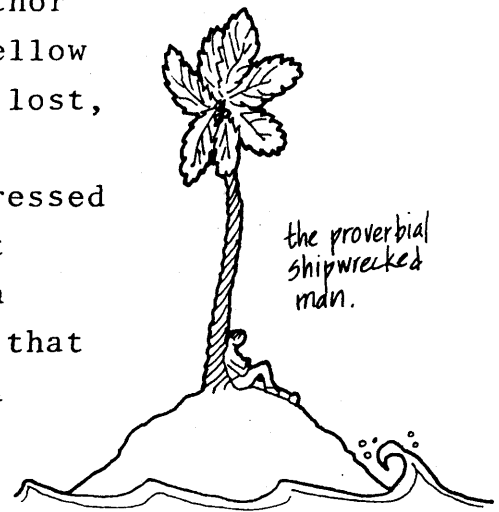> or love. This I have called the 'cognitive need
> to understand.'"[23]

The "cognitive need to understand" corresponds in full to
the need to exist within a definitive, comprehensive meaning
network; we have described, in existential terms, why it is
indispensible to the individual that he <u>understand</u> the mean-
ings and meaning relationships that anchor
him to his world and bond him to his fellow
man; without this understanding, he is lost,
isolated, cut adrift, without a raison
d'etre. We would expect him to be depressed
and disoriented, and indeed, to exhibit
symptoms of psychological ill health in
dozens of other ways. Maslow confirms that
this is so; claiming that neurosis is a
"deficiency disease" resulting from
the non-fulfillment of psychological
needs, he indicates that, without a
doubt, the individual will become psychologically unhealthy if
his "need to understand" is thwarted.[24]

the proverbial
shipwrecked
man.

The correspondence between the completeness, stability
and consistency of the meaning network, and the health of the

[23] Maslow, <u>Toward a Psychology of Being</u>, p. 206
[24] Maslow, ibid., see ch. 3

individual has been brought into even sharper focus by the
results of studies done at the University of Washington Med-
ical school by Drs. Holmes, Masuda and Rahe. These studies
explicitly document the direct relationship between
major changes in personal life circumstances, whether
objectively positive or negative, and negative
changes in physical health.[25] Regardless of whether,
for example, an individual gets married or gets di-
vorced, he is more likely to get sick as a result.

We understand that such major changes undermine the very
core of the individual meaning network; necessitating the re-
construction of bonding relationships throughout its vital
parts. This is especially true when the change involves the
loss of a person who is psychologically close, but is true
as well when the loss is of a place or circumstance to which
one is closely bonded. The extensive reconstruction of a
previously complex and stable meaning network seems to be so
energy consuming that it directs a significant portion of the
individual's vitality away from the maintenance of his own
physical resistance.

In light of these findings, and in light of the corres-
pondence between psychological health and the stability of
the meaning network that we draw from Maslow's work, we can
easily understand Marc Fried's findings of pronounced and pro-
longed depression among forcibly relocated slum inhabitants
from Boston's West End.[26] Fried found that depression was
present in these people for as long as two years post-reloca-
tion; Holmes, Masuda and Rahe also found that major life changes

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[25] Thomas Holmes, with Minoru Masuda, "Psychosomatic
Syndrome," Psychology Today (April, 1972), pp. 71-72, 106.
These studies propose a scale to predict the likelihood of
a health crisis based upon the number and degree of recent
life changes.

[26] Marc Fried, "Grieving for a Lost Home," The Urban
Condition, ed. Duhl (N.Y.,1963), pp.151-170.

43.

had a negative effect on physical health for the two years following upheaval.

The reconstruction of a meaning network apparently consumes not only energy, but time; meanwhile the individual is fragmented, and existing in a fragmented world to which he does not belong.

We have pursued the foregoing discussion about the difficulties of reconstructing a personal meaning network not to suggest that individuals should not undergo life changes-- obviously, changes, some of them major, are necessary in any person's life. Our purpose has been simply to emphasize the importance of having a complete and stable meaning network by considering what happens when this network is damaged.

BOND FORMATION AND THE HOUSE

Returning to our initial question, we focus again upon the housing architect and his efforts to design "good" homes for many unknown people. Can we uncover clues in the foregoing discussion of existential man and his meaning network that will be of use to the architect in the decisions he must make?

We are, of course, not closer to "knowing" people whom we have never met than we were before; we still cannot describe the precise content of an unknown individual's meaning network. We know, however, the cardinal function of this meaning network--it is fabricated to describe the individual's relationship to his world and to his fellow human being, and to assure the "rightness" of his own being in the world. We know also the psychological and physical importance of the individual's perception of bondedness, and the extent of environmental involvement necessary to his construction of an adequate meaning network; we know that he needs and uses every bonding channel at his disposal.

Not every bonding channel is environmental, naturally;

44.

the individual's environmental experience is emphatically not
the only experience he uses to construct his meaning network.
A good many bonding channels are environmental, though; and
these are the ones that rightly concern us as architects.
How well we deal with the function of the environmental bond-
ing channels in our designs will largely determine the extent
to which other people can perceive our built designs as "places,"
special places, meaningful places.

If we consider houses in terms of their
bonding potential, how they provide for or
prohibit fulfillment of the individual's urge
to bond himself to "the whole of reality,"
we have, as designers, at least a basis for
ordering priorities within our decision-
making process, and, as well, a basis for
analysing the results of our work.[27]
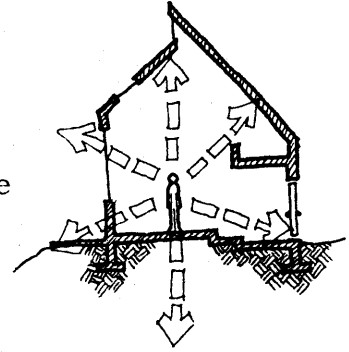
the house may be open or
impervious to the individual's
bonding needs.

The house would seem to be indispensable as one of our
bonding channels. There is no other that describes for us
so surely our place in the scheme of things. Our house is
our place in the scheme of things, the center of our cosmos,
the place to which we always return in all our comings and
goings. It is the beginning and the end of all the bonds of
meaning that we form with all other places, and is the one
powerful bond of meaning, the root, that anchors us straight
down into the cosmos.

It is profound. It says to us and to all others those
things that are our constant preoccupation, giving coherent
voice to the poles of our great dilemma: that we are one of
many and that we are one apart. It is permanent, more perma-
nent than we are. It is process; it accomodates the process
that we are.

Our house...It is the one we love, the one that does

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[27] Piaget, Intelligence, in Richmond, op.cit., p. 78,
uses the words "the whole of reality."

these things for us that only a house can do. If we are very
lucky, it is also the one we live in. If not, we still live
in it in our minds, wish for it, have images of it.

All houses are not created equal. Some are charismatic;
they invite us, they show us how to love them, how to invest
them with meaning. Like models of the full meaning network,
they are multi-faceted, revealing our bondedness in ever new
ways. Others are flat and closed to us. We may reside in
them, but we cannot inhabit them. Their corners are aggres-
sive and push us out. Their surfaces are slippery and evasive,
refusing to couple the feelers of meaning we extend with hope.

The differences between the houses that we love and the
houses that we do not love are elusive, and, of course, are
very often not the same for different people. Which is not
to say that we should not examine them; believing that the
house not only shelters us but stabilizes all that is mean-
ingful to us, we must examine how it is possible for it to do
so. We thus begin our analysis of the spiritual capacity of
house elements.

PART II

47.

THE HOUSE AND ITS BONDING CHANNELS:
A Study of the Spiritual Capacity of House Elements

PART II: ANALYSIS OF HOUSING RESEARCH

HOUSING (read: HOUSES) AND THE ARCHITECT

The house seems to be triply profound; it is effective in a spiritual sense on at least three major levels.

1. It provides a bonding intermediary, a link, between an individual and his cosmic concept;

houses that communicate make it easier for their people to communicate.
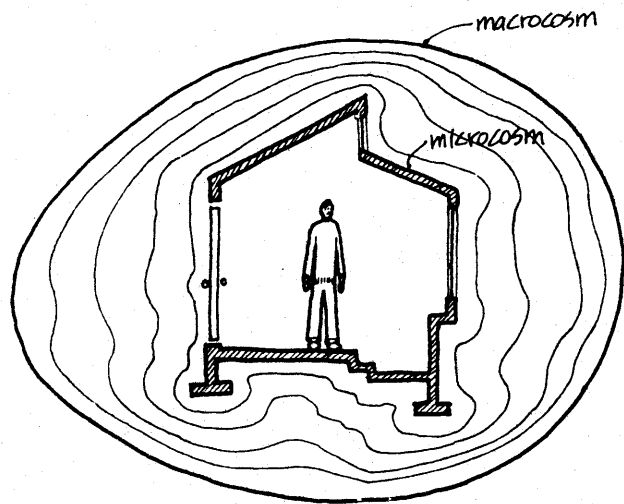
2. It also acts as a bonding intermediary between an individual and the human community;

3. It provides the individual with a means to acknowledge and communicate his own specialness; in effect, to recognize and develop his own inner coherence through what his house does for him.
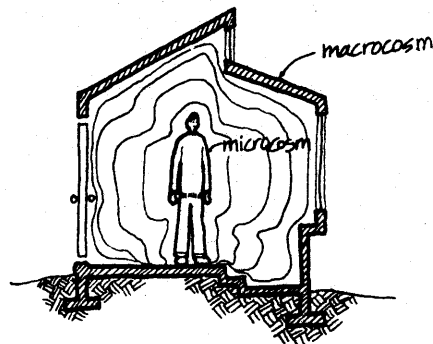
It is also an intermediary, in a very pragmatic sense, between the individual and the elements: it keeps out the weather. Architects generally have no problem in dealing with

49.

the last; they can build. Whether the building is a house
or is not a house, it can be made structurally sound and wea-
ther tight. Yet in recent years, architects and those con-
nected with the architectural profession have become increas-
ingly aware, painfully aware, that people cannot live in just
any old enclosure that presents walls to the weather and has
a roof overhead.

The image of the explosive end of Pruitt-
Igoe has become for many of us a symbol of
countless failures in mass housing; truly we
know that in mass housing projects all over
the country human misery is rampant, deviancy
and criminality flourish, social orders dis-
integrate, little children are not safe, and
a sense of meaning in life is nowhere to be
had, etc., etc.

GOOD-BYE,
P-I !

This may seem to be a melodramatic assess-
ment of the situation, yet our social litera-
ture, not to mention the news media, provides us
with an abundance of just such examples, assur-
ing us that this purgatory on earth comprises the existence of
innumerable people.[1] Yet the housing projects where these
people live have not come to such dramatic ends.

It is not the intent of the architect that people should
be miserable in his buildings. He would, of course, like for
his buildings to perform all of their functions well--the spir-
itual and profound as well as the pragmatic. He is not a no-

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[1] See, e.g., George Schermer Associates, More Than Shel-
ter: Social Needs in Low- and Moderate-Income Housing (Wash-
ington D.C., 1968), esp. Case History 5, Cyrus Homes, and
Case History 6, Osiris Homes. See Chester Hartman, "The Lim-
itations of Public Housing: Relocation Choices in a Working
Class Community," Jour. AIP, XXIX, 4 (November, 1963), 283-
296; and Lee Rainwater, "Fear and the House-as-Haven in the
Lower Class," Jour. AIP. XXXII, 1 (January, 1966), 23-31; for
further comment on people's needs in, and reactions to, gross
scale housing projects.
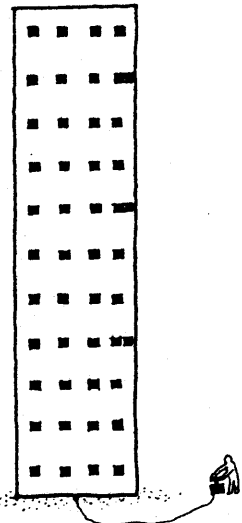
vice at dealing with spirituality
in buildings; his great monuments
and public buildings have always
evoked a sense of the profound.
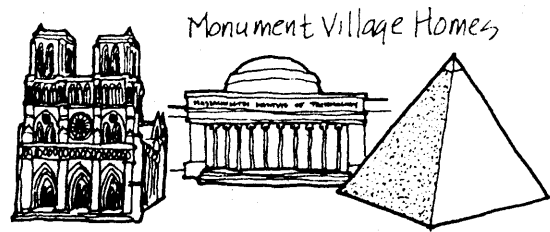But monuments and houses operate

Monument Village Homes

... just imagine living here!

at entirely different levels of
spirituality--they deal with different facets of the meaning
network; they cannot replace one another as bonding channels.

And the architect, for all his experience in monumental
building, is a novice at the housing game. He has never be-
fore in history been the one to provide housing for the masses.
He has dabbled in a few palaces and mansions for the elite,
but the masses, by and large, have provided their own housing.
Amos Rapoport somewhat facetiously says that

> "...monuments--buildings of the grand design trad-
> ition--are built to impress either the populace
> with the power of the patron, or the peer group
> of designers and cognoscenti with the cleverness
> of the designer and good taste of the patron."[2]

It is, of course, not true that monuments have played
such a limited positive role in the lives and culture of the
populace, and we should not disparage the work of the tradi-
tional architect so lightly. Rapoport's next remark, however,
emphasizes the obvious contrast which has always existed be-
tween the designed process which has produced the monument
and the organic, vernacular process which has produced the
house. Historical (and prehistorical) "mass" housing--that
is, the houses where all the common people have lived--has
been generated through a folk tradition, and not through a
designer's concept. Rapoport comments that this folk tradi-
tion "...is the direct and unself-conscious translation
> into physical form of a culture, its needs and val-
> ues--as well as the desires, dreams, and passions
> of a people. It is the world view writ small, the
> 'ideal' environment of a people expressed in build-

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[2] Rapoport, House Form and Culture (Englewood Cliffs,
N.J., 1969) p.2

ings and settlements, with no designer, artist,
or architect with an axe to grind...The folk trad-
ition is much more closely related to the culture
of the majority and life as it is really lived
than is the grand design tradition, which repre-
sents the culture of the elite."[3]

In an era wherein the building of a house was within the
capability of the average citizen, it was not necessary for
the architect to be extensively involved in the everyday life
and culture of the majority. In this era of specialization,
however, in this twentieth century which is the time-frame of
post-industrial man, the sheer numbers of the masses to be
housed, as well as the technological expertise needed to house
them, require that the architect become the channel for mod-
ern vernacular as well as the giver of monuments.

In this new role, the old beaux artes traditions, the
formalism and the monumentalism fail him; they are appropriate
to another mode of human expression. Nor is he able to rely
on his own values to lead him to felicitous solutions to
large-scale housing problems. Rapoport's pessimistic obser-
vations about the divergence in values and attitudes between
architects and general populace are as true now as they ever
were; studies which have compared the values of these two
groups have uncovered no developing correspondence.

Instead, the split is confirmed. David Canter's study

"...indicated that there is, indeed, a communica-
tion problem between architects and ordinary peo-
ple--that clients do not understand what architects
are talking about, that they associate different
feelings and experiences with each other and with
form, and that people do not experience from arch-
itecture what architects intend them to experience."[4]

Robert Hershberger, who conducted a similar comparison study,
echoes Canter's results; he specifically identifies several

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[3] Rapoport, op.cit., loc.cit.

[4] David Canter,"An Intergroup Comparison of Connotative
Dimensions in Architecture," Environment and Behavior, I,1
(June, 1969), 45.

52.

areas of divergence in opinion which might seem to cause the architect a certain amount of concern. Hershberger says,

> "...approximately thirty percent of the time when the Penn Architects would judge a building to be good, pleasing, beautiful, interesting, exciting, and unique; the Non-Architects would judge it to be bad, annoying, ugly, boring, calming, and common."[5]

It becomes apparent that the architect of houses, who seems to be a very different person from the architect of monuments, needs a new theory to help him in what is essentially a new profession. This theory must take into account the value systems and philosophical outlooks of the majority--the individuals who will be intimate users of the architectural product. The architect must recognize the relationship of the individual to his own social order, to his own psyche, and to his own world concept; and furthermore, he must consider how the house may function in such a way as to allow the individual to recognize and participate in these "bonding" relationships.

Yet the architect is generally not a sociologist, nor a psychologist, nor a philosopher. He seems, to use a trite but apropos analogy for his dilemma, to be caught between the devil and the deep blue sea; his housing must serve sociological, psychological, and philosophical functions, and he does not know how, just offhand, to make it do so. He experiments; sometimes he pulls his design decisions blindly out of the hat, sometimes he develops them thoughtfully. Sometimes he is successful, sometimes not.

pick a card; any card.

the architect's search for a magic solution

In the last twenty-five years, from approximately the early 1950's, the architect's role in mass housing has grown almost exponentially; and the need to develop more germaine

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[5] Robert Hershberger, "A Study of Meaning and Architecture," EDRA I, 1969. p. 98.

design tools and techniques has become correspondingly more
and more pronounced. During this time period, architects and
those involved in the architectural profession have under-
taken a number of concerted, systematic efforts to define and
understand the more subtle complexities of the relationship
between people and their houses; and to build via this under-
standing a design approach. Some of these studies and re-
search projects have made use of quite comprehensive statis-
tical samplings; others have been very limited in scope. Par-
ticular emphases and techniques have been similarly varied.

For the most part, those studies which we have looked
at in the course of this work represent attempts to identify:

    1. What people like about and/or want in their houses;

    2. How people's houses influence their behavior and/or
their perceptions of the world.

For the most part also, any
analysis of the research results
has understandably stopped short
of an attempt to determine the
deepest implications of why peo-
ple like what they do or want
what they do; or why people's
houses influence their behavior

just because five people like something doesn't mean that six will.

and perceptions as they do. Environmental research must neces-
sarily use a scientific approach which is based on specifics;
it seeks quantifiable information, it compiles hard facts.
But these results must undergo a transformation by abstraction
if they are to be useful in design. It is only if we are able
to tie them to a larger, more constant rationale that they
will become applicable to the generic human being who is the
user of mass housing.

It cannot be enough to identify the here-and-now specif-
ics of any man-environment relationship; a very cursory glance
at human history will tell us that specifics are always in

flux. Response to the specific is a dependent variable--
never the same for different respondents, in different times,
in different places. Thus we cannot successfully design homes
that recognize all these differences by using a theory that
is based on the direct, unmodified incorporation of specific-
ally and locally identified el-
ements. Where we do not know
the user, we are, in fact, un-
able to determine just what the
specific elements of his home
should be. Even where we do know
the user, we know him only as he is today. We must recognize
that he is, as all people are, in process; and that his envir-
onment must not be so crystallized, so specific, that it can-
not accomodate the extremes of this process.

persons within a person
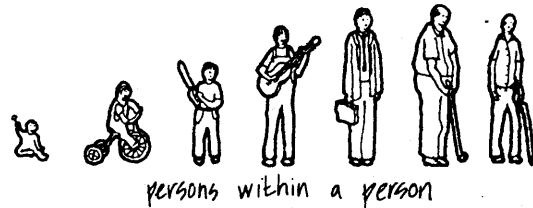
If we accept the theory that man's spirituality, his abil-
ity to see meaning and to form meaning bonds, is a tendency
which needs, and even requires, fulfillment--a psychological
drive--then human spiritual needs begin to assume a level of
importance equivalent to human physical needs. The means by
which man fulfills his spiritual needs, his bonding channels,
then seem to become critically important, too--in the same
way that food, sleep and shelter are critically important.

The house has an unquestionably critical physical funct-
ion to perform: it shelters its inhabitants; it must serve
adequately as a shelter. It has as well a critical spiritual
function to perform: it is an entity which potentially con-
tains and unifies a number of bonding channels which the in-
dividual can use in one way or another to establish and main-
tain his personal meaning network. The meaning bonds which
he is able to generate using his house-related bonding chan-
nels are the ones which secure his image of his house as a
psychologically unique place, his place.

If we wish to develop a design approach which will help

us to deal with this spiritual function of the house, we may attempt to use the results of our housing research to clarify those bond-forming capabilities which the house does or does not provide to its occupants.

The remaining sections of this thesis represent an attempt to develop such an approach.
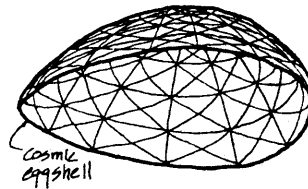
BONDS

It is the feeling of the author that much housing research has been done in recent years, and much quantified information about the relationship of the individual to his home environment is available to us. The reader will find listed in a separate bibliography those housing research studies which have been the source of most of the information discussed in the following sections. While it is true that these studies vary widely both in completeness and in quality, and that they do not begin to meet the overwhelming need for comprehensive field research in housing, they do provide us with an information base which is adequate for our present purposes.

We have tried to find clues in these studies about the kinds of house attributes and qualities which seem to have potential use in the formation of psychological bonds. These bonds seem to be generated on at least three different levels; we will term these:

1. STRUCTURAL BONDS

2. INTERPERSONAL BONDS

3. SELF-ACKNOWLEDGING BONDS

1. Structural Bonds include:

a. Those bonds which allow the individual to perceive an interdependent structural relationship between external elements of the cosmic whole; that is, bonds which are formed by pure understanding which acknowledges relationships between elements independent of their relationships to the individual who is perceiving.

cosmic eggshell

a. cosmic relationships which are external to the individual who perceives them, a tree falling in the forest with nobody there to hear it fall...

Even if we heard it, we would still not participate in the relationship between the tree and gravity.

b. Those bonds which allow the individual to perceive his own relationship to this comprehensive whole; that is, bonds which are formed by the individual's participation in

a relationship with discreet or
combined external elements of
the whole. These participatory
bonds are reinforced by under-
standing, but the understanding
is of an inclusive rather than
an exclusive relationship.
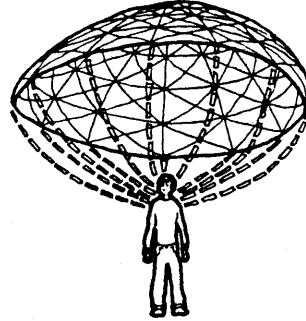
b. cosmic relationships
in which the individual
feels himself to
participate; planting
a tree.

For example, if an individual recognizes the dependence
of plant life upon nourishment from the earth, he forms a bond
of <u>understanding</u> with the plant-earth relationship. If, how-
ever, he himself plants a tree, he is also able to recognize
the dependence of the tree upon <u>him</u>, and his own impact upon
the earth--thus he forms a <u>participatory</u> bond with both the
tree and the earth.

Structural bonds, then, allow the individual:

a. to understand an overriding cosmic order, and
b. to feel that he personally participates in this order.

Structural bonds can also be differentiated on physical/
semiological planes.

They can be bonds which are
formed through the recognition
and use of tangible, visible,
three-dimensional order; that
is, through networks of travel
or topological relationships.

= 253.4' N 28°35' W
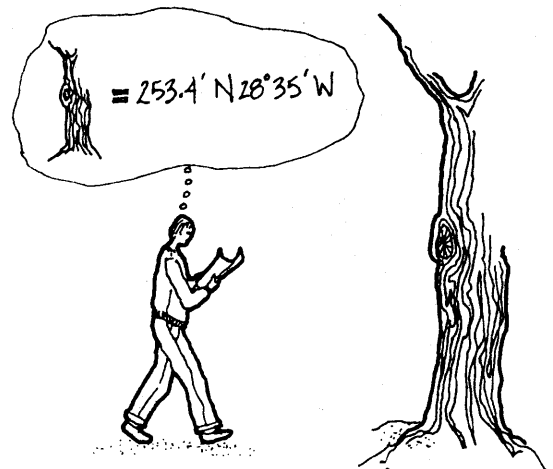
through his understanding of this
meaning of the tree, the man
establishes a "structural" bond
which helps him to order the
physical world.
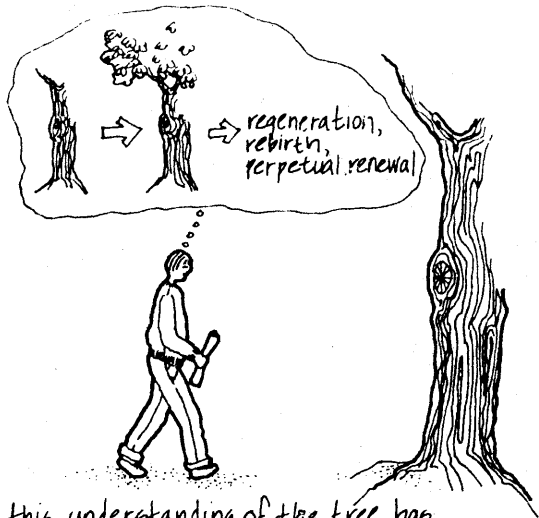
this understanding of the tree has nothing to do with how the man orders the world three-dimensionally; it contributes instead to his concept of semiological order.

They can also be bonds which are formed through the recognition of semiological order; that is, through understood symbolic meanings and meaning relationships which imply an order beyond the physical order.

These degrees and levels of structural bonding can be described in a two-by-two matrix.
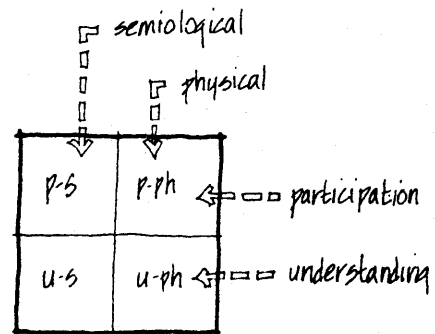
Interpersonal Bonds include:

a. Those bonds which allow the individual to understand all human relationships as an interlocking, systemic whole which is part of, but subsidiary to, the cosmic whole.

b. Those bonds which allow the individual to see himself as a functioning, related member of this human community.

The former are bonds of understanding which are similar in degree to structural bonds of understanding; they involve the comprehension of human relationships which exist independently of the individual who is perceiving. Likewise, the latter are similar in degree to structural bonds of participation, in that they include the individual who is perceiving in the relationship which is being perceived.

Interpersonal bonds also operate at different physical/semiological levels. They can be formed through the perception of relationships which are based upon logically apparent, physical human characteristics--through age groupings, sex group-

ings, locational groupings, etc. They can also be formed through the perception of spiritual and symbolic meanings which accrue to various individuals and groups. This differentiation in interpersonal bonding is similar to the physical/semiological differentiation in structural bonding.

A further distinction which we may make in considering bond-forming between persons is that some bonds are more or less deliberately originated by the person or group of persons who are being perceived as objects of bonding, while other bonds are not in any way dependent upon any intentional action, or even awareness, on the part of those to whom the individual feels himself bonded.

The first of these is what we shall term "communicative bonding"; this form of bonding requires the intentional involvement of at least two persons, and is only completed when the bond is understood as such by both the person perceived and the person perceiving.

communicative bonding

The second we shall term "unilateral bonding," since it requires only the understanding of the person who perceives himself as bonded.

unilateral bonding
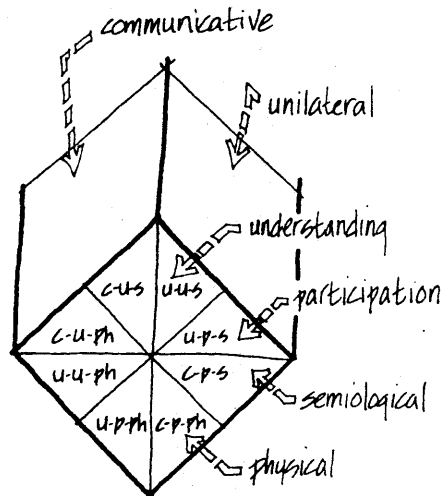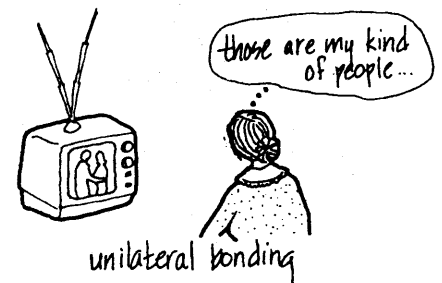
Interpersonal bonding may be described in terms of a three-dimensional matrix.

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The third type of bonds which we shall consider, Self-Acknowledging Bonds, are the bonds by which an individual secures and protects his sense of himself as a separate, whole functioning system which is subsidiary to both the human whole and the cosmic whole. These bonds do not lend themselves to description in the same terms that we have used to describe structural bonding and interpersonal bonding. It may even be questioned whether we may call them "bonds" in the sense that we have been using the word; perhaps they would be more accurately termed "loops," since they begin and end within an individual. Upon first consideration, they may seem to function in a manner that is more divisive than it is unifying, as they effectively insure the separateness of the individual from all else.

Their real function, however, is to establish cohesion between, and order within, the body, mind and soul of the individual. Here we refer again to Abraham Maslow's work with what he calls "self-actualizing" individuals.[6] The full physical-psychological integration which seems to characterize these individuals appears, in our terms, to coincide with a fully elaborated set of self-acknowledging bonds--a microcosmic bonding network which stabilizes the individual within himself.

This type of bonding, by which the individual becomes a non-fragmented whole, seems to be a fundamental prerequisite to individual bonding perception on other levels. It is not necessary, of course, for the individual to achieve a state of self-actualization before he is able to engage productively in structural or interpersonal bond-forming. On the contrary, even the infant engages constantly in all kinds of bond-forming--using his perceptions of structural bonds and interpersonal bonds to reaffirm and enlarge his perceptions of him-

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[6] Maslow, Toward a Psychology of Being (N.Y., 1968), p. 25 et passim.

self, and using his internal, self-acknowledging bonding net-
work as a nucleus and a base from which his perceptions of
external order extend.

It would seem, however, that the infant probably begins
to engage in structural and interpersonal bond-forming as a
result of some rudimentary self-
awareness: he becomes aware of the
feeling of hunger within himself,
and as a result he can begin to
form associations and understand
meanings of things outside of him-
self. Thus he is never without the prerequisite core of self-
acknowledging bonds.

there's something strange going on inside me. I must be...hungry!

Awareness of physical response; need to satisfy physical response.

The perceived needs of the individual, and the external
bonds which he establishes to fulfill these needs, can gener-
ally be traced to some glimmer of self-awareness; that is, to
a bond of understanding between an individual and himself, a
self-acknowledging bond. Maslow identifies five levels of
such perceived needs which make themselves felt in the course
of the individual's developmental life; fulfillment of each
lower need is seen as being prerequisite to consciousness of
the next higher one.[7]

> Briefly, in order, these needs are described as:
> 1. food, shelter, clothes
> 2. protection, safety, security
> 3. belongingness
> 4. respect, esteem, dignity, self-respect
> 5. self-actualization.

We will note that the first three, and the fourth to a
lesser extent, seem to be dependent upon structural or inter-
personal bond-formation for their fulfillment; and only the
last seems to rely primarily upon the formation of self-ac-
knowledging bonds. It is our feeling, however, that conscious-

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[7] Maslow, op.cit., pp. 199-200

ness of the first four needs is a result of the formation of self-acknowledging bonds; that is, consciousness of need results from the individual's perception of some quality of himself as an individual. It is in this sense that we speak of self-acknowledging bonds as being generally prerequisite to structural and interpersonal bonds.

The felt need for food, shelter and clothes stems, as we have seen above, from the individual's awareness of his own physical response. Similarly, the felt need for protection, safety and security might stem from the individual's recognition of his own preciousness and his own vulnerability;

I could get hurt!

Awareness of vulnerability; need for security.

Gee! I'm nothing at all like my friends! What if they think I'm wierd?

...the felt need for belongingness might stem from his acute recognition of his own separateness;

Awareness of separateness; need to belong.

while the felt need for external respect might stem from his awareness of his own worthiness, or perhaps from the sense of attained personal competence which Perin believes is so important to him.[8]

Boy, I'm really turning out my best work here! Those dummies better appreciate it!

Awareness of competence and worth; need for respect.
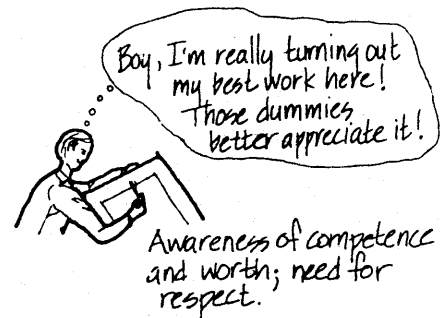
Conversely, fulfillment of each lower need results first in the springing into consciousness of a new self-acknowledging

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[8] Constance Perin, With Man in Mind: An Interdisciplinary Prospectus for Environmental Design (Cambridge, Mass., 1970), pp. 45-51

awareness; and only secondarily in consciousness of a new, higher need. The entire process of psychological development resembles a switchback more than a ladder, involving as it does alternating growth impulses in the internal and external meaning networks.
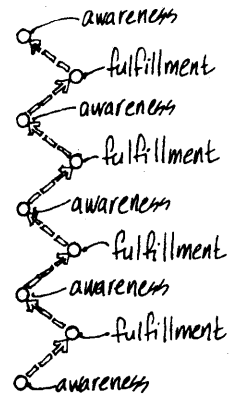
Maslow recognizes this interactive correspondence, and the mutual support that the internal and external provide to one another. He writes of the individual that,

> "As he becomes more unified, he tends to be able to see more unity in the world."[9]

and also that,

> "...looking within for the real Self...however paradoxical this may sound, is also simultaneously the path to experiencing one's specieshood, one's commonness with all other members of the human species."[10]

We see that, of course, self-acknowledging bonds, interpersonal bonds and structural bonds do not develop independently of one another; development within any part of the meaning network will spur corresponding further development in other parts. Full development of the set of self-acknowledging bonds, which we are considering as synonymous with self-actualization, implies simultaneously occurring completeness and integration of the entire meaning network.

For the sake of simplicity and organization, however, we will discuss the bond-forming potential of the house in terms of the three general types of bonds we have identified: Structural bonds, Interpersonal bonds and Self-Acknowledging bonds. We will, unless otherwise stated, limit our discussion of structural and interpersonal bonds to those of the parti-

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[9] Maslow, op.cit., p. 95.

[10] Maslow, op.cit, p. 185.

cipatory degree; that is, those which involve the perceiving individual in the bonded relationship. We will not discuss bonds of pure understanding of external relationships unless it seems at some point to be particularly pertinent.

The differentiation between bonding in the physical mode and bonding in the semiological mode will be used as an organizational technique in discussing structural bonds, while the hierarchy of human relationships will be used to organize our discussion of interpersonal bonds.

We note that self-acknowledging bonds are, in any case, participatory; the bond-forming individual is always involved in this bonded relationship. We will limit our discussion of these bonds to those that seem to trace directly to the individual's interaction with spatial or cosmic elements; that is, those which, to the extent that we can identify them, are brought into being as a result of development within the structural bonding network. We will not consider self-acknowledging bonds that seem to be generated as a result of interpersonal interaction, even though these may be indirectly related to the qualities and attributes of the house.

CHECKLIST OF BONDING CHANNELS

      To see if we could determine what "things" about houses
might encourage structural bond-forming, interpersonal bond-
forming and self-acknowledging bond-forming to take place, we
examined the results of the housing research studies which
are identified in the Bibliography of Housing Research Mater-
ial. An initial evaluation of this material produced the fol-
lowing "checklist" of potential bonding channels which seemed
to be related to house elements, attributes and qualities.

STRUCTURAL BONDING CHANNELS: Bonding channels which make a
     primary contribution to bonding between the individual
     and the non-human cosmic order.

I. PHYSICAL bonding: Structural bonding via connective channels
    which have defined existence within the "real" (substant-
    ive) environmental structure.

A. <u>MOVEMENT CHANNELS</u>:

Area of greatest articulation is here; movement channels become increasingly less articulated as distance from the house increases

intermediate vehicular

minor vehicular

conventionally defined movement channels

major vehicular

pedestrian

any space which <u>allows</u> movement through offers a potential movement channel; some are less defined by the environment than others

Movement channels include all the enclosures, semi-enclosures, delineations and suggestions which allow or invite actual movement through the environment. These may be defined by such things as movement patterns within and between interior places/rooms, corridors, doorways, stairs, walks and paths, streets, roads, highways, and so forth; they may also exist in minimally defined spatial openness which simply allows one to move through. Motion from one place to another implicitly assigns meaning to the place of origin, the place of destination, and the places moved through. Thus, when one has the potential to move through the environment, one also has the potential

...places defined by movement

to form bonds with environmental places which are tangential to one's path of movement. We will designate any environmental potential to move from place to place a MOVEMENT CHANNEL.
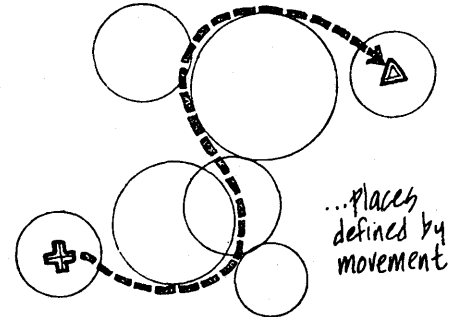
The success of a Movement Channel as a bonding channel is determined by;

1. Access
   a. existence of access
   b. convenience of access

2. Fullness
   a. the existence of a hierarchical range of scales.
   b. the existence of a hierarchical range of articulation.

3. Reasons for use
   a. frequency/urgency
   b. distribution

B. PERCEPTUAL CHANNELS

Perceptual channels include all spatial arrangements and environmental elements which allow or enhance sensual awareness of surroundings. Such awareness assigns meanings to the places which are perceived, and so forms a bond between the person perceiving and the place perceived. Things like windows, curtains and shades, planting screens and built screens,

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for example, control and direct visual Perceptual channels. We may think of these things as being perceptual channels to the extent that one can perceive through them, and as being perceptual barriers to the extent that one cannot perceive through them. Perception implies more than visual perception, of course; it may involve any of the senses (or extra-senses). Perceptual channels which permit acoustical perception and olefactory perception also seem to be of significant interest in the context of the environmental bonding channel. We will designate any environmental circumstance which allows one to sense the form and character of one's surroundings as a PERCEPTUAL CHANNEL.

you can see through windows...
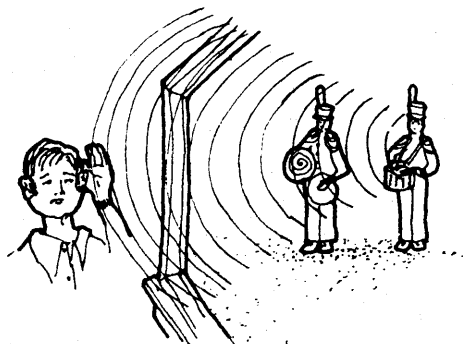
...The window: a prototypical perceptual channel...

you can hear through windows..

aah, sweet spring!

you can even smell through windows.

The success of a Perceptual Channel as a bonding channel is determined by;

1. Access
   a. potential for unrestricted access to sensual perception.
   b. potential for control of access to perceptual channels.
   c. convenience of access

2. Fullness
   a. potential for full sensual involvement.
   b. existence of a hierarchical range of scales, distances, articulation.
   c. consistency of perceptual image with self-image; with world image.

3. Reasons for use
   a. associative aspects of perception.
   b. functional aspects of perception.

C. CONTROL CHANNELS:

Control channels include all those physical elements which the individual may use to operate or modify the house environment to accord with his own needs and desires; and also those physical elements which, simply by their existence, maintain or produce environmental circumstances which are congruent with his needs and desires. A thermostat dial which one uses to turn up the heat and a tightly constructed wall which keeps out the cold are both effective control channels; a wall with cracks and holes in it is not.

When the individual is able to exercise control over environmental conditions, or to feel that environmental conditions are positively controlled by existing elements, he has a positive understanding of the environment as a place that is responsive to his own requirements. This understanding of responsiveness as an environmental meaning establishes a bond between the controlled environment and the individual. Any environmental element or circumstance which secures the inhabitant's needs and desires, or which allows him, through manipulation, to secure his own needs and desires, we will designate as a CONTROL CHANNEL.
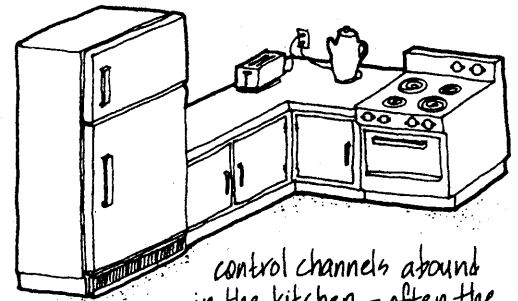
control channels abound in the kitchen — often the most operable place in the house. Any other part of the house that functions well offers a control channel too.

The success of a Control Channel as a bonding channel is determined by:
1. Access
   a. existence of control channels within inhabitant's sphere of activity.
   b. convenience/ease of use of control channels.
2. Fullness
   a. degree of responsiveness/reliability.
   b. range of options for alternate control decisions.
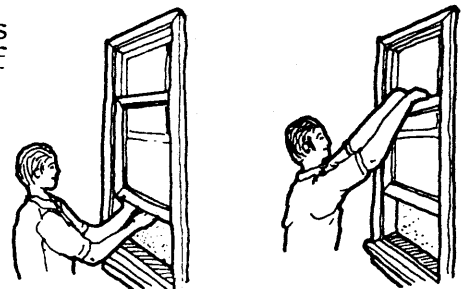
Windows are one example of an operative control channel

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c. range of control levels corresponding to levels
             of need.
     3. Reasons for use
         a. needs
         b. desires

II. SEMIOLOGICAL bonding: Structural bonding via understood
     meaning relationships within the non-human conceptual·
     cosmic structure.

     A. RITUAL BEHAVIOR CHANNELS:

     Ritual Behavior channels include all environmental cir-
cumstances which permit the individual to develop awareness
of correspondence between his own existence/action and natural
process or spiritual order; or to participate in a reciprocity
or symbiotic relationship with the environment. Such things
as spaces or circumstances which encourage
productive or creative work; spaces or
circumstances which celebrate food-prepara-
tion, eating, sleeping, bathing, and other
symbolic and biological human functions;
maintenance requirements which emphasize
environment/individual mutuality; circum-
stances which invite participatory involve-
ment with natural process; and so forth,
are RITUAL BEHAVIOR CHANNELS.

Mowing the lawn
can be ritual behavior
if you love taking care
of a piece of the world.

The success of a Ritual Behavior Channel as a bonding channel
is determined by:
     1. Access--environmental potential to:
         a. do productive/creative work
         b. celebrate bodily process
         c. maintain a "place"
         d. interact with earth process.

     2. Fullness
         a. recognition of cyclical aspects of life
         b. recognition of dichotomous aspects of life
         c. recognition of interdependent aspects of life.

     3. Reasons for use
         a. everyday life process
         b. celebration/social
         c. tradition/cultural expectation.   71.

B. PERCEPTUAL CHANNELS:

Perceptual channels in the semiological mode include any environmental element or spatial arrangement which allows/enhances awareness of a secondary, symbolic order through sensual perception. For example, if there is a tree outside your window, it is a physical element that topologically defines the environment; it is also a symbolic element that illustrates through its own being the concept of regeneration through time-passing. The window is a physical perceptual channel. The tree is a semiological perceptual channel. The window may also be a semiological perceptual channel because it may symbolize "openness" without regard to what is seen through it.

Semiological perceptual channels are unlike physical perceptual channels because in semiological perception it is the perceived symbolic element which is the channel; this symbolic element allows the individual to establish a bond with the meaning which is symbolized, and beyond that, to associate this meaning with a place. Physical perceptual channels provide access to semiological perception.

Semiological perceptual channels are everywhere; anything you can see, hear, smell, taste or feel that has symbolic associations is, broadly speaking, a SEMIOLOGICAL PERCEPTUAL CHANNEL.

The success of a Semiological Perceptual Channel as a bonding channel is determined by:

maybe I shouldn't try to sell Girl Scout cookies in there...

Seeing meaning,

hearing meaning...

The sound of angry Thor striking his mighty hammer on his anvil
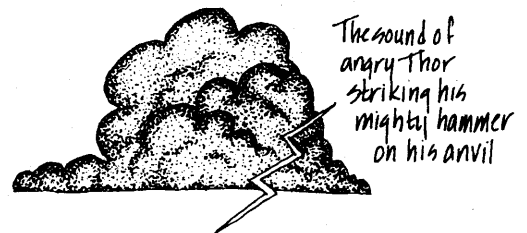
smelling meaning...

a rose is a rose is a rose

1. Access
   a. existence of symbolic environ-
      mental elements or circumstances.
   b. potential to perceive symbolic
      elements or circumstances (ex-
      istence of physical perceptual
      channels).
   c. potential to control access.

2. Fullness
   a. natural symbolism: view, mount-
      ains, sun, water, rocks.
   b. man-made symbolism: historic,
      religious, associative.
   c. potential for full sensual in-
      volvement.
   d. consistency of perceived envir-
      onmental symbolism with concept-
      ual image.

3. Reasons for use
   a. associative aspects of perception.

this reminds me of my mom's good cooking!

... tasting meaning, feeling meaning...

ahh...

C. CONTROL CHANNELS:

Semiological Control channels permit conceptual control
over the non-physical aspects of life; such matters as the
potential to make and practice life-style choices, or the po-
tential to maintain a continuous place relationship involve
the use of semiological control channels. Semiological con-
trol channels and physical control channels are use-interre-
lated; each may act as an access or a reason for use for the
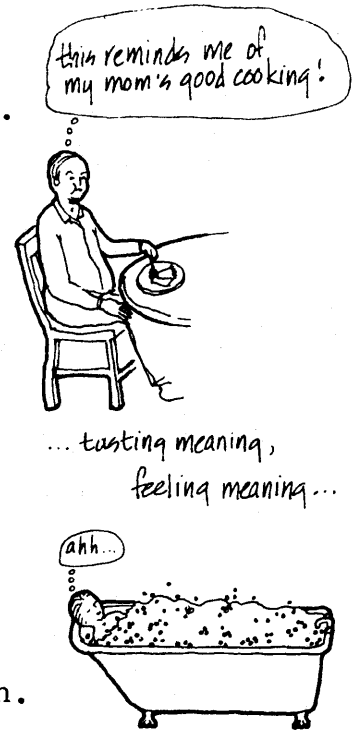other. For example, the potential to control the physical
form or size of the dwelling may
determine whether or not continuity
may be maintained or life-style
choices controlled. On the other
hand, in a condition where control
over life-style decisions or con-
tinuity already exists, a fuller
exercise of physical control chan-
nels is possible. A person who has
conceptual control over his place-
relationship, who owns his house, may exercise physical con-

if we could make this place bigger, we could stay here...

if we owned it, we could make it bigger.

trol to preserve his conceptual control. He may add a room
to his house instead of moving from his house. A person who
does not have the conceptual control of ownership has result-
ingly limited access to physical control channels.

Physical control allows semiological
control; semiological control allows phy-
sical control.

$$P \Rightarrow S \Rightarrow P \Rightarrow S \ldots \textit{etc.}$$

The success of a Semiological Control Channel as a bonding
channel is determined by:
1. Access
    a. physical and circumstantial conditions which sup- ·
       port conceptual control.
2. Fullness
    a. range of control levels corresponding to levels
       of need.
    b. physical conditions which allow/encourage trans-
       lation from semiological control to physical
       control.
3. Reasons for use
    a. needs
    b. desires

INTERPERSONAL BONDING CHANNELS: Bonding channels which make
    a primary contribution to bonding within a human social
    order.

I. Bonding at the FAMILY level

   A. INTERACTION CHANNELS:

   Interaction channels include all environmental conditions,
spaces and elements that encourage or allow individuals to re-
late to one another through being with one another, communi-
cating with one another, or engaging in activity with one an-
other. They may be spaces that foster a direct relationship
between individuals, or elements or activities that provide an
intermediary link between individuals.

The success of an interaction channel as a bonding channel is
determined by:
   1. Access

74.

a. the existence of environ-
   mental conditions which al-
   low/encourage being together,
   acting together, communicat-
   ing.
b. the absence of conflicts
   built into the use of such
   environments.
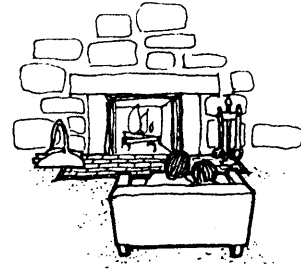
2. Fullness
   a. accomodation of a range of
      group and sub-group sizes.

   b. existence of a range of op-
      tional environmental bonding
      focii.
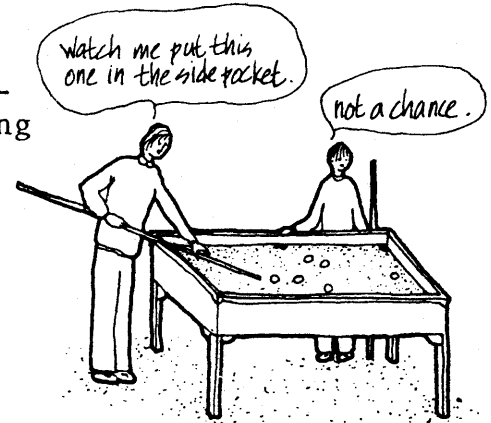
3. Reasons for use
   a. social closeness
   b. communication
   c. activities
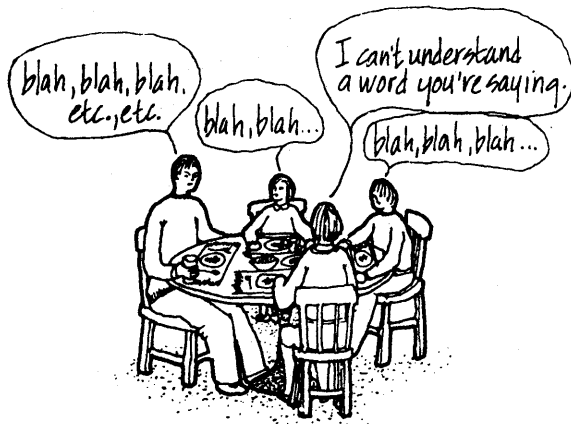
Being together, communicating
and acting together are all in-
volved in the use of any one
of these interaction channels--
but to different degrees of
comparative importance.

B. CONFLICT-AVOIDANCE CHANNELS:

Conflict-avoidance channels include all environmental
conditions which encourage the positive maintenance of family
relationships by permitting individuals to avoid negative or
destructive encounter with each other.

The success of a conflict-avoidance channel as a bonding chan-
nel is determined by:

1. Access
   a. spatial adequacy

2. Fullness
   a. existence of a range of
      options for space use.

75.

3. Reasons for use
    a. avoidance of interpersonal conflict.
    b. avoidance of activity conflict.

C. STRUCTURING CHANNELS:

Structuring channels include those environmental conditions which allow the individual to construct and maintain a positive image of his relationship with others; to engage in a degree of closeness, a degree of separateness, and a kind of interaction which is commensurate with the whole of his meaning network. Interpersonal structuring channels within the family may be thought of as a special kind of semiological control channel which permits family members to determine their relationships to one another, and the whole of their family relationship structure, in accordance with their own needs and desires.

... manifestations of different family structures...
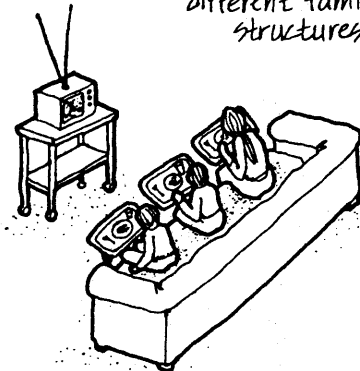
The success of an Interpersonal Structuring Channel as a bonding channel is determined by:
1. Access
    a. existence of semiological control channels.
    b. existence of interaction channels.
    c. existence of conflict avoidance channels.

2. Fullness
    a. potential to make and practice family life-style decisions.

3. Reasons for use
    a. definition of the sphere of close interpersonal relationships.
    b. protection of these structured family relationships from outside intrusion/destruction.

II. Bonding at the NEIGHBORHOOD level

A. DISPLAY AND EXHIBITION CHANNELS:

Display and exhibition channels are overture channels; they allow an individual to show others who and what he is without risking personal contact. They are primarily visual channels which are initiated by one individual to become the objects of perceptual bonding for another individual. Display and exhibition channels include such spaces and elements as front yards, facades, windows, and other areas where individual or family self-expression may become visible to non-family members.
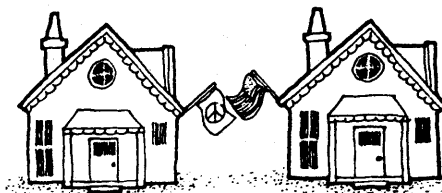
The success of a Display and Exhibition Channel as a bonding channel is determined by:
1. Access
    a. the existence of externally visible areas and spaces which are conceptually related to the individual or family.
    b. the potential to control or to effect changes within these areas and spaces.

2. Fullness
    a. degree of visibility
    b. numbers of people for whom visibility is possible.
    c. degree of change or expression possible.

3. Reason for use
    a. self-expression
    b. activity

B. CONTACT CHANNELS:

Contact channels include those environmental conditions and elements which allow or encourage casual, non-risk contact between individuals; such things as entries, stoops, porches, mailboxes, front yards, sidewalks, and other casual meeting places act as CONTACT CHANNELS.

The success of a Contact Channel as a bonding channel is determined by:

1. Access
    a. existence of a casual
       contact zone or casual
       contact areas.
    b. visibility of casual
       contact zone or areas.
    c. potential to be in con-
       tact zone or areas.

2. Fullness
    a. existence of a range
       of optional places/
       reasons for contact.
    b. degree of exposure,
       attractiveness of con-
       tact zone or areas to
       others.
    c. relationship of con-
       tact zone or areas to
       house.

3. Reasons for use
    a. social closeness
    b. communication
    c. activity
    d. functional need or desire fulfillment.

anticipating casual
contact
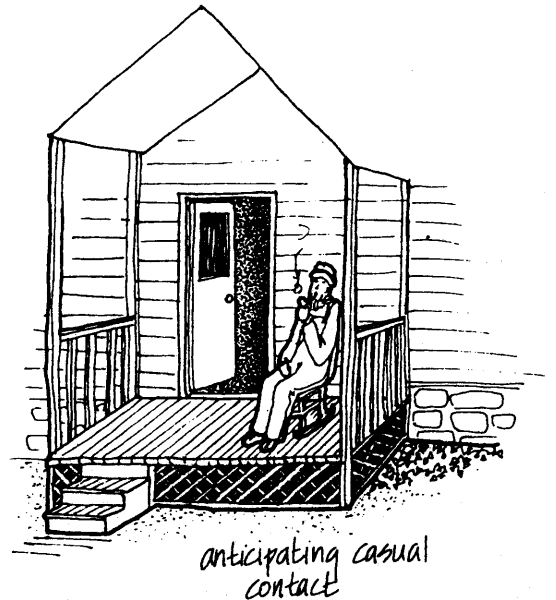
C. <u>INTERACTION CHANNELS</u>:

Interaction channels include those environmental condi-
tions or elements which allow or encourage more-than-casual
contact between persons; which contribute
to a real exchange of information and en-
ergy. At the neighborhood level, inter-
action channels may often be outside the
immediate home sphere; they may be such
things as amenities and services which are
shared by a group of homes, or common en-
vironmental goals or values which are
shared by a group. They may also, however,
be house-related channels; proximity to
others, centrality, or space use potential
may enhance the interactive bonding
value of a particular house.

let's all go over to
Joe's house and
shoot pool
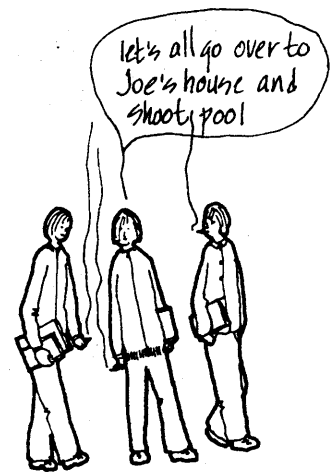
If Joe's house is the only house
with a pool table, it provides
a unique neighborhood
interaction channel.

78.

The success of a Neighborhood Interaction Channel as a bonding channel is determined by:

1. Access
    a. the existence of spaces and elements which allow or invite interaction.
    b. proximity
    c. potential to use spaces and elements for interaction.

2. Fullness
    a. accomodation of a range of group sizes, types.
    b. accomodation of a range of optional activities.
    c. dispersed hierarchical distribution.

3. Reasons for use
    a. social closeness
    b. communication
    c. activity
    d. functional need or desire fulfillment

SELF-ACKNOWLEDGING BONDING CHANNELS: Bonding channels which make a primary contribution to the individual's development of personal integration.

The self-acknowledging bonding channels which we have identified correspond generally to the developmental levels which characterize the individual's growth toward his full potential. They are all developmental channels; their use in self-acknowledging bond-forming enables the individual to define a progressively fuller sense of himself.

A. SUSTENANCE CHANNELS:

Sustenance channels include those environmental conditions which allow the individual to secure his most basic physical needs: nourishment, warmth, shelter, sleep, elimination; and to understand through this fulfillment his own nature as a biological being. These channels assume cultural overtones as the individual develops and becomes culturally acclimated; the infant can eat, sleep, eliminate anywhere, but the growing and grown person finds that his culture inevitably places environmental restrictions on his basic need fulfillment. Since the individual's sense of himself (even as a biological being) results partly from his awareness of his cultural mem-

bership, this culturally imposed envir-
onmental dimension is an important
consideration in the functioning of
the sustenance channel as a self-
acknowledging bonding channel. We
will consider all environmental con-
ditions and elements which allow or
invite the fulfillment of physical needs
within a cultural context as environ-
mental sustenance channels.

...here I am -- a starving-to-death, flaming vegetarian -- and there's not a thing in the house to eat but a rib steak.

The success of the sustenance channel
as a bonding channel is determined by:

1. Access
    a. existence of environmental
       conditions and elements
       which allow fulfillment of
       physical needs in a cultur-
       ally acceptable way.
    b. existence of physical con-
       trol channels which permit
       the personal use of these
       conditions and elements.
    c. convenience.
2. Fullness
    a. responsiveness to individual
       variations in time, frequency,
       and degree of need fulfillment.
3. Reasons for use
    a. fulfillment of biological needs.

...environmental conditions which act contrary to basic need fulfillment; a failure of sustenance channels...

I wish they'd turn off the XXX radio so I could get some sleep.

B. <u>SECURITY CHANNELS</u>:

Security channels include those envir-
onmental circumstances and elements which pro-
tect the physical well-being of the individ-
ual; they counteract environmental danger and
likelihood of accident. They may anticipate
(e.g., fire extinguishers, bomb shelters),
warn of (signs, lights, buzzers), control
(traffic signals), or prevent (barriers) se-
curity-threatening circumstances.

80.

Security channels assure the individual of his personal safety; and foster his sense of himself as a "chartered" individual, an individual with a rightful, unthreatened claim to physical existence.
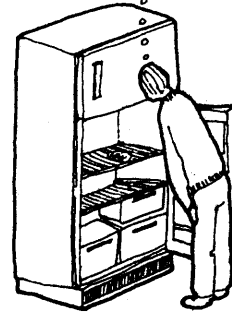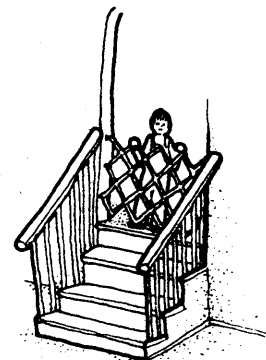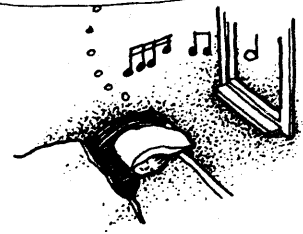
The success of a Security Channel as a bonding channel is determined by:
1. Access
    a. existence of environmental circumstances which are non-threatening to the individual's physical well-being (neutral).
    b. existence of environmental elements which counter-act threatening environmental circumstances (positive).
    c. potential to use physical control channels to secure well-being.
2. Fullness
    a. responsiveness, appropriateness to individual variations in security needs.
3. Reasons for use
    a. need for physical security.

C. PRIVACY CHANNELS:

Privacy channels are those environmental circumstances and elements which allow the individual to guard and secure his sense of his own separateness; they may be thought of as semiological security channels. Often the same environmental elements (e.g., a lock and key) will insure both physical security and privacy; but the danger which the privacy channel counteracts is the danger of psychological exposure rather than the danger of physical mishap or harm.
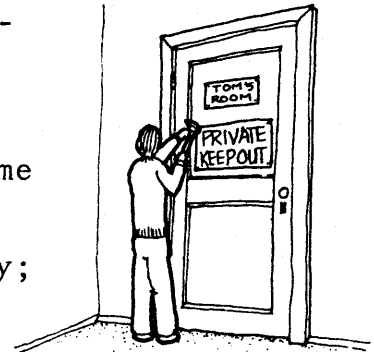
The success of the Privacy Channel as a bonding channel is determined by:
1. Access
    a. existence of environmental circumstances which protect the individual's sense of separateness.
    b. potential to use/control these circumstances and elements.

2. Fullness
    a. responsiveness to individual variations in need
       for privacy.
    b. range of optional private/semi-private circum-
       stances.
    c. privacy of person; privacy of personal effects
       and manifestations.
3. Reasons for use
    a. need for psychological security.

D. SOLITUDE CHANNELS:

Solitude channels are those environmental circumstances
which allow the individual to experience and explore his sense
of his own separateness through being or feeling alone. These
channels may operate in conjunction with
privacy channels--and indeed, a certain
amount of privacy is implicit in the ex-
perience of physical or psychological
solitude, since one's presence and/or
one's thoughts and feelings are removed
from the scrutiny of others. But physi-
cal privacy, even physical aloneness, is
not a necessary condition for psycholo-
gical solitude; the individual's atten-
tion may be directed inward regardless of how many people are
around him, or how aware they are of him. Solitude channels
are environmental conditions which the individual uses to di-
rect his own attention inward; they offer potential for phy-
sical and psychological aloneness, and affirm the individual's
separateness by diminishing his awareness of others. In this,
they are unlike privacy channels, which protect the individ-
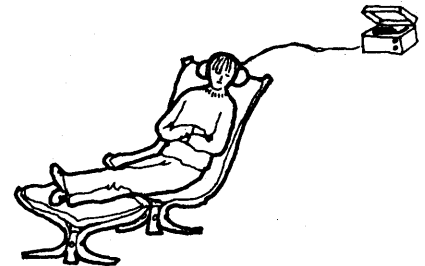ual's separateness by diminishing others' awareness of him.

The success of the solitude channel as a bonding channel is
determined by:
1. Access
    a. existence of environmental conditions which en-
       courage inward direction of attention.
    b. potential to use/control these conditions.

example of a solitude channel that does not require the individual to be physically alone.

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        c. absence of distraction.
        d. absence of space-use conflicts.

2. Fullness
    a. responsiveness to variations in time, frequency
       and duration of individual solitude-seeking.
    b. range of opportunities for physical solitude.
    c. range of opportunities for psychological solitude.

3. Reasons for use
    a. need for self-awareness.
    b. need for focused attention.

E. COMPETENCE CHANNELS:

Competence channels include those environmental circumstances and elements which allow the individual to manage the affairs of his life in a creative, resourceful, capable way; and thus to gain awareness of himself as a competent and productive being.

Am I a total incompetent, or is this place just IMPOSSIBLE to deal with?

The relationship between semiological and physical control channels and competence channels is one of reciprocity; competence channels are the self-acknowledging counterpart of structural control channels. On the one hand, the potential to control, or the act of control, establishes a relationship to the object or situation which is controlled; on the other hand, it establishes an understood meaning of self as a being who is able to control, as a competent individual. Acting in the first way, as a bonding channel contributing to the formation of an external relationship, the control channel is structural; acting in the latter way, as a bonding channel contributing to the development of a sense of self, it is a self-acknowledging competence channel.

The success of a competence channel as a bonding channel is determined by:

1. Access
   a. existence of and access to physical control chan-
      nels.
   b. existence of and access to semiological control
      channels.
   c. appropriateness of environmental competence chan-
      nels to individual variations in capability.

2. Fullness
   a. existence of a range of opportunities for using
      or developing competence, corresponding to levels
      of need fulfillment.

3. Reasons for use
   a. fulfillment of needs.
   b. fulfillment of desires.

F. SELF-EXPRESSION CHANNELS:

Self-expression channels include those environmental cir-
cumstances or elements which allow or invite the individual to
engage in outward manifestations of his inner images--to cre-
ate, to produce, to make sensible worldly extensions of his
conceptual self. We may think of Interpersonal Display and
Exhibition Channels as a special case of the class of Self-
expression Channels; self-expression which is generated through
these interpersonal channels is intended primarily to communi-
cate with others; nevertheless, it invariably provides the in-
dividual who initiates it with feedback about himself, and
thus with a self-acknowledging bonding channel as well as with
an interpersonal bonding channel. A certain self-communicat-
ing component is present in all self-expressive activity,
whether or not it is undertaken purely for its self-communi-
cating aspects, or is intended primarily for the awareness of
others.
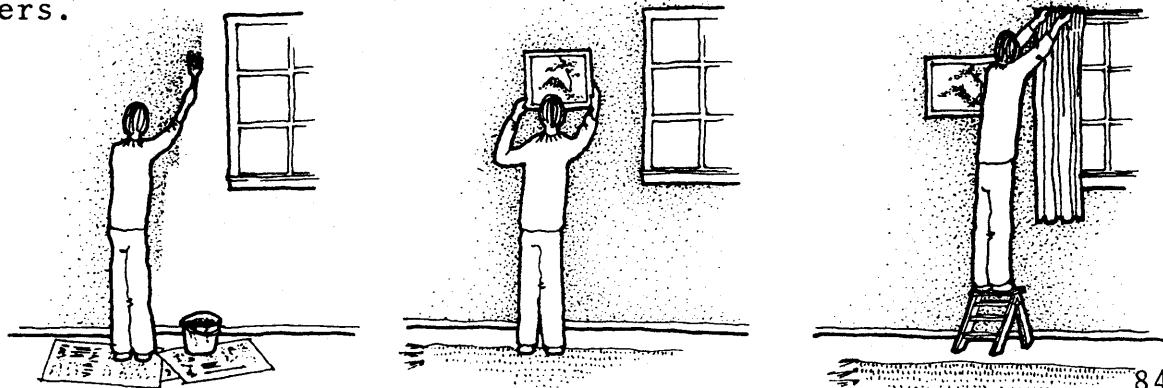
We will consider the environmental stimulation of self-expression for either of these two primary reasons (communication and pure self-expression) as a SELF-EXPRESSION CHANNEL.

The success of a Self-expression Channel as a bonding channel is determined by:

1. Access
    a. environmental potential to make sensible personal impact on conditions and circumstances.

2. Fullness
    a. potential for involvement of full expressive repertoire of human capabilities.

3. Reasons for use
    a. communication
    b. existential need to counteract environmental detachment; to extend self into environment.

G. ASSOCIATIVE CHANNELS:

Self-Acknowledging associative channels are those environmental conditions and elements which stimulate an archetypal psychological response in the individual. We propose this channel somewhat tenuously as there is no firm agreement within the scholarly world about the actual existence of an archetypal or deep structural basis to the human psyche.[1] Nevertheless. there is some evidence that such "places" as caves, high places, expansive places, tunnel-like places, sublime (grandiose or vast-scale) places, transparent and semi-transparent places, etc., may stimulate a deep-seated psychological re-

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[1] See C.G. Jung, Psyche and Symbol, ed. Violet de Laszlo, (Garden City, N.Y., 1958), esp. chs. III & IV, p. 265; Man and his Symbols (Garden City, N.Y., 1964), Part 1, pp. 18-104, Roger Barker, Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior (Stanford, 1968), pp. 68-70 et passim; Mayer Spivak,"Archetypal Place," Architectural Forum (Oct. 1973), pp. 44-49; Paul Gump, "The Behavior Setting: A Promising Unit for Environmental Designers," Landscape Architecture (Jan. 1971), pp. 130-134; Gaston Bachelard, The Poetics of Space, trans. Maria Jolas, (Boston, 1969), passim. The work of these authors supports the idea that formal environmental conditions may evoke typical species response.

sponse; there is further evidence that
this "archetypal" response may not
be limited to the experience of
these more-or-less standard
spatial "types," but may accom-
pany the experience of any
space/place.[2] An infinite
range of formal spatial variables--
size and scale relationships, pro-
portion, degree and transparency of
enclosure, orientation, light quality
and direction, density and texture of
surfaces, articulation, air movement,
smells, sounds and temperatures, etc.--in subtle and intensely
varied combinations define the experience of any particular
place; and define as well the value of the archetypal asso-
ciative channel which this place offers.

why are
tree houses
so neat...?
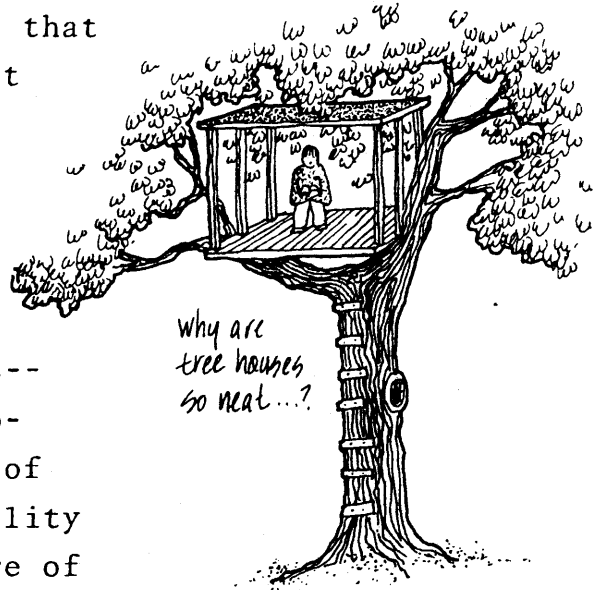
The individual who has access to a significant variety
of spatial types has the potential to understand a relation-
ship between his specific behavior or emotional response and
its spatial context; each unique space within which he finds
himself has unique associative possibilities. On the other
hand, if the individual's spatial experience is very limited,
the relationship of spatial context to behavior or emotional
response, and the implications of spatial context for human
potential, must be limited as well. We will consider any
space which is described by a unique combination of spatial
qualities as a unique associative channel.

The success of an Associative Channel as a bonding channel is
determined by:

    1. Access
        a. existence of a variety of combinations of spatial
           qualities.

---

[2] See esp. Barker, op.cit., Gump, op.cit., Spivak, op.
cit.

86.

b. existence of and access to movement channels.
c. existence of and access to physical and semiolo-
   gical perceptual channels.

2. Fullness
   a. availability of a range of spatial experience; or
      access to a great variety of spaces exhibiting
      differing proportional mixes of spatial character-
      istics.

3. Reasons for use
   a. associative value of space as a context for var-
      ied human activity.

Concisely, then, our checklist includes these bonding
channels:

Structural

Movement channels
Physical Perceptual channels
Physical Control channels
Ritual Behavior channels
Semiological Perceptual channels
Semiological Control channels

Interpersonal

Family Interaction channels
Family Conflict-avoidance channels
Family Structuring channels
Exhibition and Display channels
Contact channels
Neighborhood Interaction channels

Self-Acknowledging

Sustenance channels
Security channels
Privacy channels
Solitude channels
Competence channels
Self-expression channels
Associative channels

Within the checklist, these identified channels have been
grouped at the level where they seem to contribute in the most
primary way to bond formation--i.e., at the structural, inter-
personal, or self-acknowledging level--even though the same
environmental characteristic which provides a particular chan-
nel might well make a secondary contribution to bonding on
other levels.

The basis we have used for identifying thematic groupings of bonding channels within levels is, generally speaking, the activity or behavior in which the individual must engage in order to generate a meaning bond through a particular channel-- moving, perceiving, controlling, behaving in a ritual manner, interacting, etc. This activity or behavior can, of course, be psychological or perceptual as well as physical.

It is not the intention of this thesis to suggest that the checklist we offer here is by any means a comprehensive list of bonding channels. Even the casual reader can no doubt propose other channels--situational, cultural, conceptual or environmental channels--which are not included here but which the individual might use with equal facility to engender re- lationship bonds between self and non-self. The group of channels which we propose to consider here have in common their environmental implications: they are essentially envir- onmental "places" which invite, encourage, or at least allow positive bonding activity to take place.

In this sense, they are bonding channels which may in- fluence the positive perception of the home as a place; each offers the individual unique opportunities to develop a pos- itive place-image of his home.

We emphasize that a place-image results from the forma- tion of meaning bonds which include the place as an object of bonding; these meaning bonds, however, are not necessarily positive--a place may be understood in firmly, intensely negative terms without a loss of strength in place-image. The variety of bond- ing channels which a particular place contains, and the degree of bonding activity which is generated by the use of these bonding channels, cause it to be understood as a special, well- defined place, whether positive or negative; the hypothetical place which contains no bond-

ing channels, and hence stimulates no bonding activity, is a non-place--it has no meaning within the world image of the individual.

Those environmental places which we are really interested in here, however, are house-places; and it is our feeling that they should have, not negative meaning, and certainly not no meaning, but positive meaning. For this reason, those environmental bonding channels which we have identified as important within the home context are those which seem to offer the greatest positive bonding potential.

If the individual is to form a positive place-image of his home, he must be able to use the bonding channels which are available to him to construct a good-meaning network which describes this special place. To do this, he must first of all have access to the use of any particular channel, and he must, additionally, have substantial reasons to use the channel. For example, there may be an infinite number of paths and roads--movement channels--extending from the individual's house, but if he is not permitted to leave his house, he will not be able to use these channels for environmental bond-forming. If he is able to leave his house, but if there is nothing at the other end of any of the movement channels that he wants or needs, he will not make very extensive use of them either.

a lot of movement channels are of little value if access to them is denied.

The third factor which is important to the bonding suc-

cess of any environmental bonding channel is that it must offer "full" potential to construct meaning relationships. In the case of the movement channel, this means that the individual must have the potential to move a variety of distances, by a variety of means, for a variety of reasons, through a variety of spaces, to a variety of destinations, etc. If his network of movement channels consists of ten brick-surfaced walkways all ending 100 feet from his house, or if it is singular in any other way, then it cannot offer him full bonding potential.
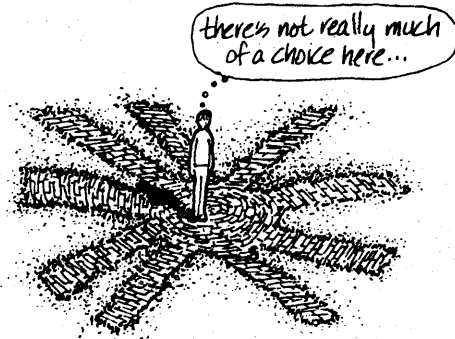
These three factors--access, fullness, and reasons for use--are important to the success of every one of the positive environmental bonding channels we have identified; none can be used effectively to establish place-meaning if any one factor is absent or limited. In the remaining sections, we will discuss specific failures or successes of different bonding channels in terms of these three factors.

STRUCTURAL BONDING CHANNELS

MOVEMENT CHANNELS

Movement channels are a very nearly literal translation into physical form of the concept of the bonding channel. The reality of a road or path extending out from us and connecting at its other end to something else makes it easy for us to envision our connectedness to spatial existence as a bond.

you are here

all the places we pass through are specially defined by the path of our movement, too. This definition is a bond.

you want to be here

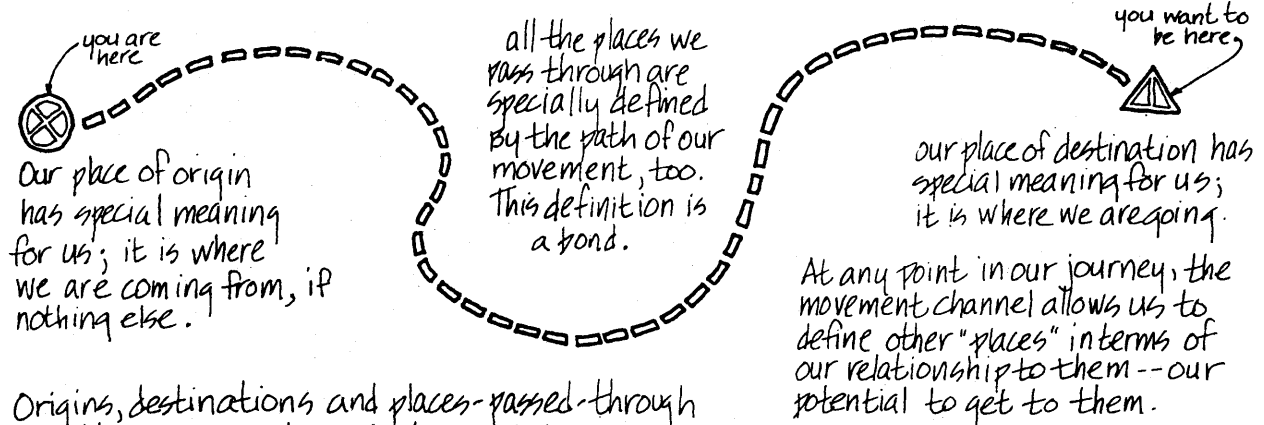Our place of origin has special meaning for us; it is where we are coming from, if nothing else.

our place of destination has special meaning for us; it is where we are going.

At any point in our journey, the movement channel allows us to define other "places" in terms of our relationship to them -- our potential to get to them.

Origins, destinations and places-passed-through are the component parts to which the movement channel bonds us.

We are potentially bonded to every place that we can go to; we might even imagine our bonds to places as occupying the roads and paths that we would take to travel to those places.

Place-bonds and movement channels might seem to occupy the same space. We feel ourselves bonded to a house through the front door, along the same linear path we would use to walk through the front door.

A bond, of course, does not actually occupy any space; it is psychological. It resides in the meaning which the bonding channel allows us to perceive. Yet in the case of the movement channel, this meaning is firmly attached to the spatial aspects of movement. Thus the image of psychological connection, the sense of meaning in places which we establish through the use of movement channels, closely parallels the form of the actual physical connection.
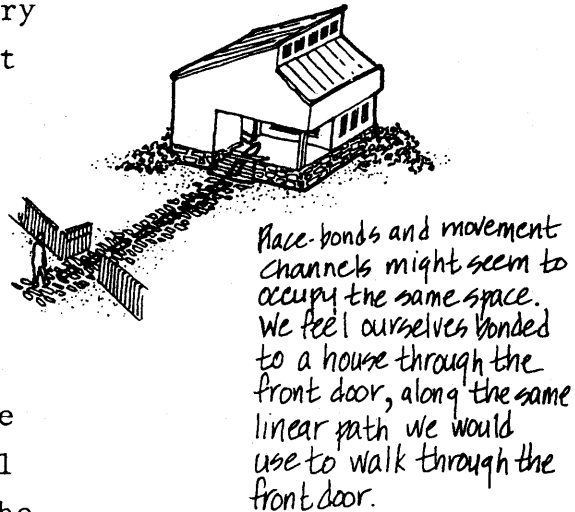
The movement channel (and to some extent, the physical

perceptual channel, which
we shall discuss next) is
the only bonding channel
which "connects" physi-
cally as well as psych-
ologically. In this
sense, it is the least
abstract of all the bond-
ing channels we have iden-
tified. Because of this
literalness, it is appro-
priate that the movement
channel be the first of
the thematic bonding chan-
nels we shall discuss in
some depth.
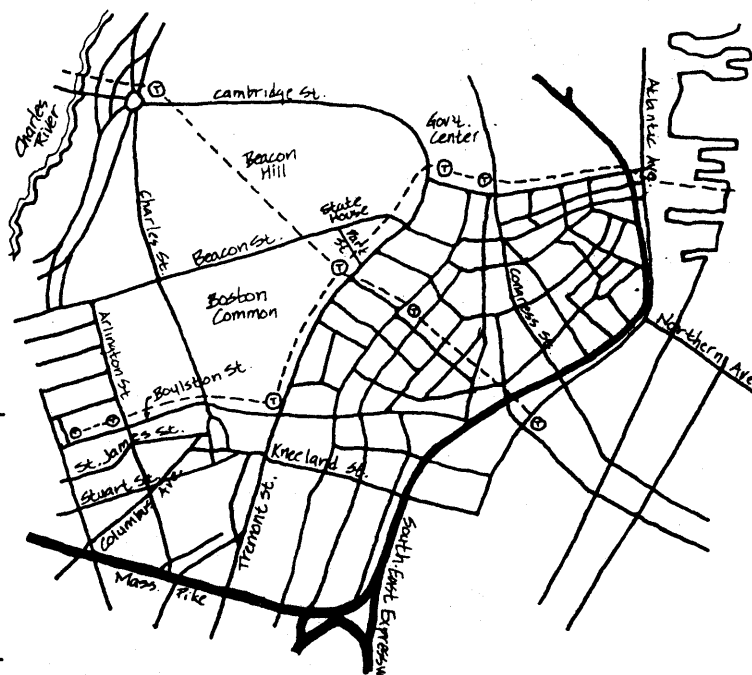
A parallel in form exists between the full interlocking
system of paths and roads and the full meaning
network, as described in an earlier section.
The map is a semi-lattice diagram of our psychological
connection to places, and of our potential physical
connection to places.

ACCESS:

Having access to the use of the movement channel as a
means to establish psychological meaning bonds implies act-
ually being able to move from place to place in the physical
world. Obviously, such access does not always
exist--there are a lot of places where certain
individuals, or all individuals, cannot go, be-
cause access to these places is either denied
or severely restricted.

no access

In cases where access to movement does not exist, move-
ment channels do not exist as bonding channels either, be-
cause the individual is unable to use them to formulate a
first-hand experiential place-bond. An understanding of
places-not-traveled-to is necessarily partial and second-hand;
if, indeed, the individual has an understanding of such places

it must result from
the use of other
less immediate
bonding channels.
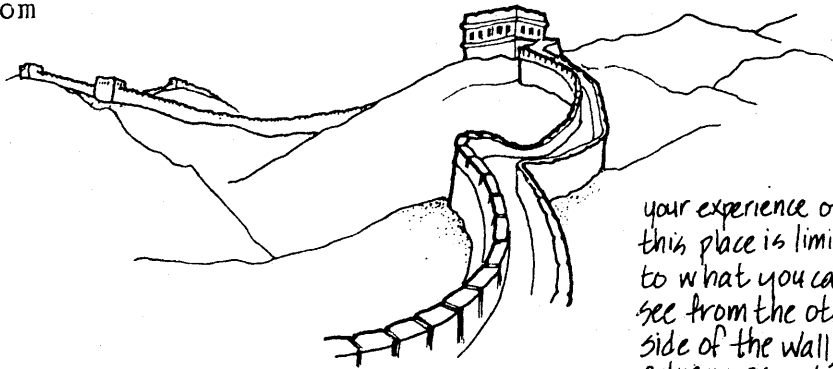
your experience of this place is limited to what you can see from the other side of the wall; an extreme example of restricted access.

Less severe restrictions on access to movement diminish, but do not destroy, the bonding value of the movement channel--unless they are so severe as to discourage movement altogether. Generally speaking, limited access to movement channels has a more severe impact on the participatory value than on the understanding value of place-bonding. It is possible, for example, for the place-image which the individual constructs of his movement-destination to be quite strong, even though his movement to this place may be hazardous or restricted. His sense of his own connection to this place, however, will be jeopardized; his participatory place-bond will be tenuous.

The movement channel, then, that allows only restricted use is only partly effective as a bonding channel, because the individual needs to use all of his structural bonding channels both to understand/have images of the places in his environment, and to feel that he is connected to them.

my pig will not cross over the style, and I shall not get home tonight.

the frustration of restricted access to movement is the theme of the story, "The Old Woman and her Pig."

95.
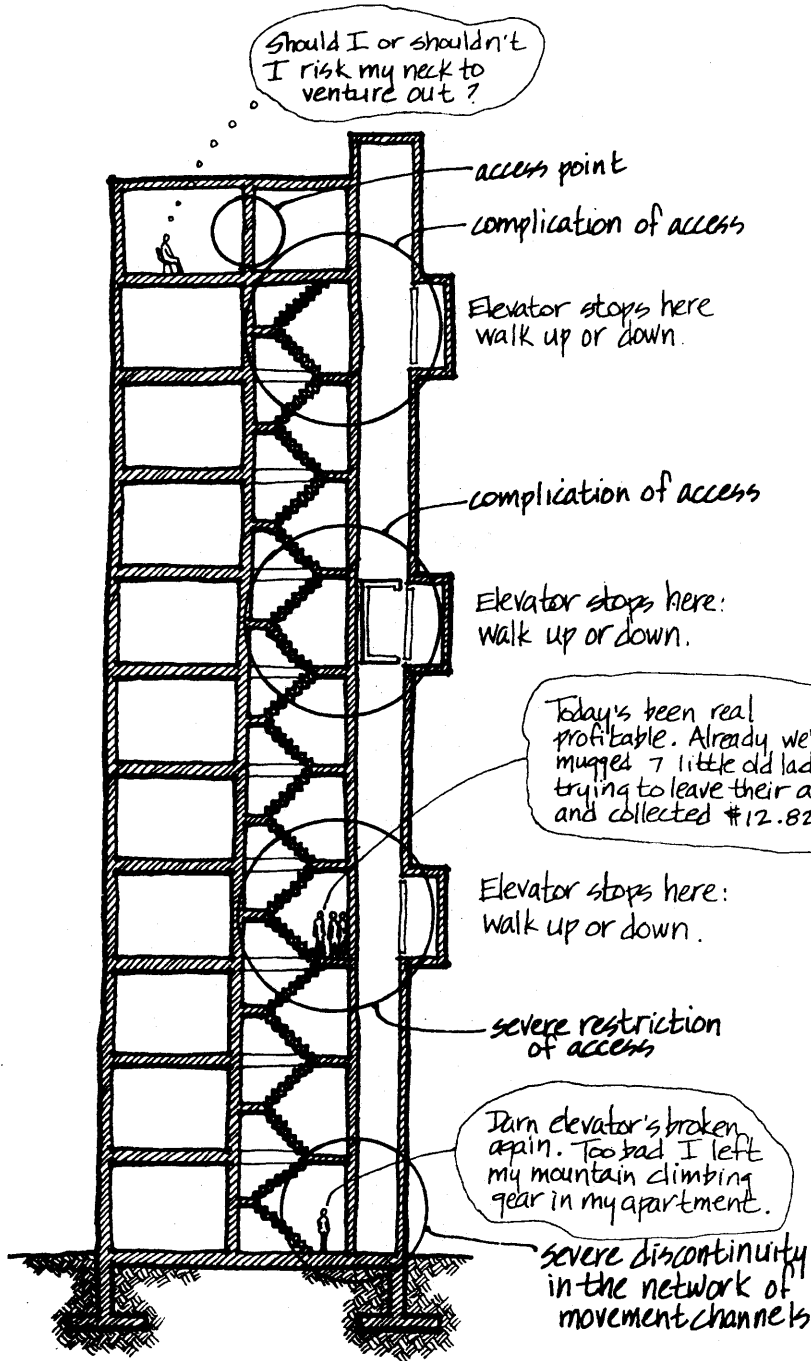
"Elevators and stair-wells open to sheltered but unenclosed areas. While there is more than one elevator per building, each tier of units can be reached by only one elevator. Thus, if any elevator is out of order (which happens constantly) the people in that tier have no means of reaching or leaving their dwellings except by stairway.

Elevators serve only the gallery floors. The tenants must walk up or down one flight to reach their units...Practically all the windows on the gallery floors are broken. Groups of boys and young men loaf around the elevator entrance and on the gallery floors. Women and older people are frequently subjected to robbery and physical assault. Almost a quarter of the units are vacant."[1]

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[1] George Schermer Associates, More Than Shelter: Social Needs in Low- and Moderate-Income Housing (Washington, D.C., 1968), p.144

The residential buildings described by Schermer Assoc-
iates represent the ultimate in physical isolation; in stuffy
philosophical terms, we might consider them to be a full phy-
sical reinforcement of the human existential dilemma.

Ease of movement does not exist beyond the dwelling unit's
doors--access is inconvenient, prolonged and hazardous; severe-
ly restricted both physically and socially. The buildings are
11 stories tall, and if inhabitants do not want to (or cannot)
undertake such an arduous climb, they are utterly dependent
upon an unreliable mechanical access point to get them to and
from their units. Moreover, the use of either stairs or ele-
vator involves a risk of losing property, physical well-being,
and perhaps even life. This risk is, of course, so severe
that it discourages use of movement channels at all beyond the
very small private sphere.

Thus the bonding potential of movement is negated both
in terms of understanding and in terms of participation. Be-
cause they are essentially unable to leave their units, inhab-
itants are unable to form place-images (bonds of understanding)
within a larger environment; and are also unable to feel them-
selves as psychologically connected (bonds of participation)
to places within a larger environment.

Schermer Associates identifies these buildings by the
code name "Osiris Homes"--which aptly implies the realm of the
dead.[2] The situation which is described, however, is identi-
cal to that which existed at ill-fated, unlivable Pruitt-Igoe.
If there is a moral here (and there is) it is that extreme,
enforced isolation, the absence of access to movement channels,
is philosophically excruciating and untenable as a living con-
dition.

---

[2] Schermer Associates, op.cit., pp.140-147

Access limitation is rarely so severe, or so immediate,
as that which destroyed the bonding value of movement at
"Osiris Homes." People can usually go at least a certain dis-
tance beyond their dwelling unit doors with little difficulty;
and even though they may encounter more difficulty or restrict-
ion at greater distances, it is usually not enough to keep
them from experiencing environmental places outside their homes,
and from forming bonds of understanding with these places. The
effect of such minor and major difficulties--which restrict
but do not prohibit access to movement--is insidious; it is
felt as frustration, irritation, anger, helplessness, because
it diminishes the individual's sense of connection to the en-
vironment which surrounds him. These difficulties may be en-
countered at any distance from the individual's home; they make
coming and going--moving--less pleasant, less trustworthy,
less safe, less sure and simple than it should be.

FOR EXAMPLE:
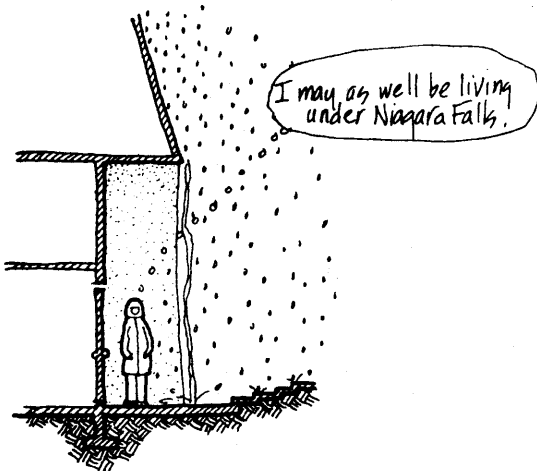
"Lack of gutters allow small wa-
terfall to form as a barrier to
entry. Height allows rain to
blow in."[2]

This access, described by Brandt
Andersson in one of the three
housing projects he analysed,
cannot be considered dangerous;
but it is certainly intermit-
tently less pleasant than it
could have been--which means
that movement provides less of
a positive bonding channel than
it could provide.

[2] Andersson, Studies of User Satisfaction in Three Devel-
opments: Project Summary (unpublished, Boston, 1975), p.37

PROLONGED, INCONVENIENT ACCESS:
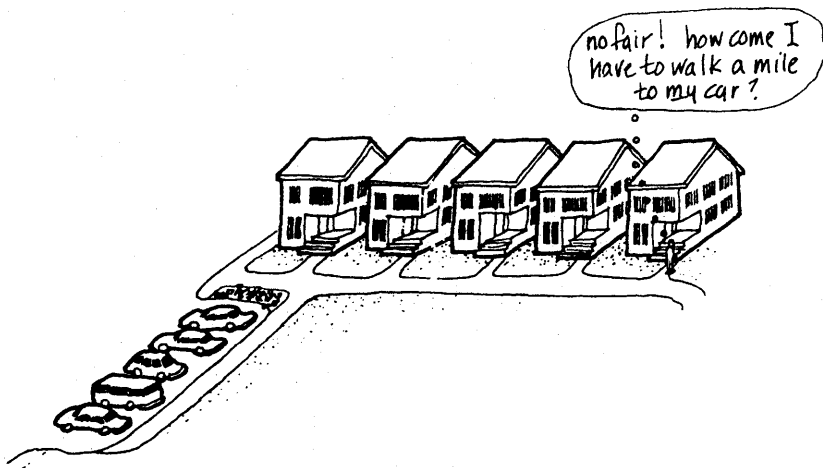
"Clearly the most important problem is parking. While there was some disagreement about whether there was enough overall, there was near unanimity that it is misallocated...Several people mentioned friends who had moved out for that reason. Others have simply started parking in illegal spots, blocking walkways, in one case parking at the back door in the courtyard... Fire lanes are frequently blocked. Parking by guests near buildings is resented by others without a space."[3]

This finding by Andersson comes as no surprise--it seems to be a general site planning rule-of-thumb that people cannot be expected to walk more than 100'-150' between their cars and their dwellings. In fact, they may adamantly refuse to walk farther. It's not just that people hate walking--sometimes walking provides one of humanity's great joys: i.e., intimate, unhurried environmental contact.

But the desire/need to use a car implies that another scale of movement is sought. In this case, the prolongation of immediate, intimate environmental experience can act as an access barrier to a larger scale of environmental experience. It is optional environmental experience at all scales, and not mandatory environmental experience at all scales, that results in a "good" network of movement channels.

---

[3] Andersson, Studies of User Satisfaction in Three Developments: Analysis--Three Projects (unpub., Boston, 1975), p.1

DIFFICULT ACCESS ONE LEVEL REMOVED FROM HOME:

Big access problem:
steep slope,
no light,
busy highway

No access problem

"Access to local road is easy, but highway is very busy in summer. Slope makes entry very difficult."[4]
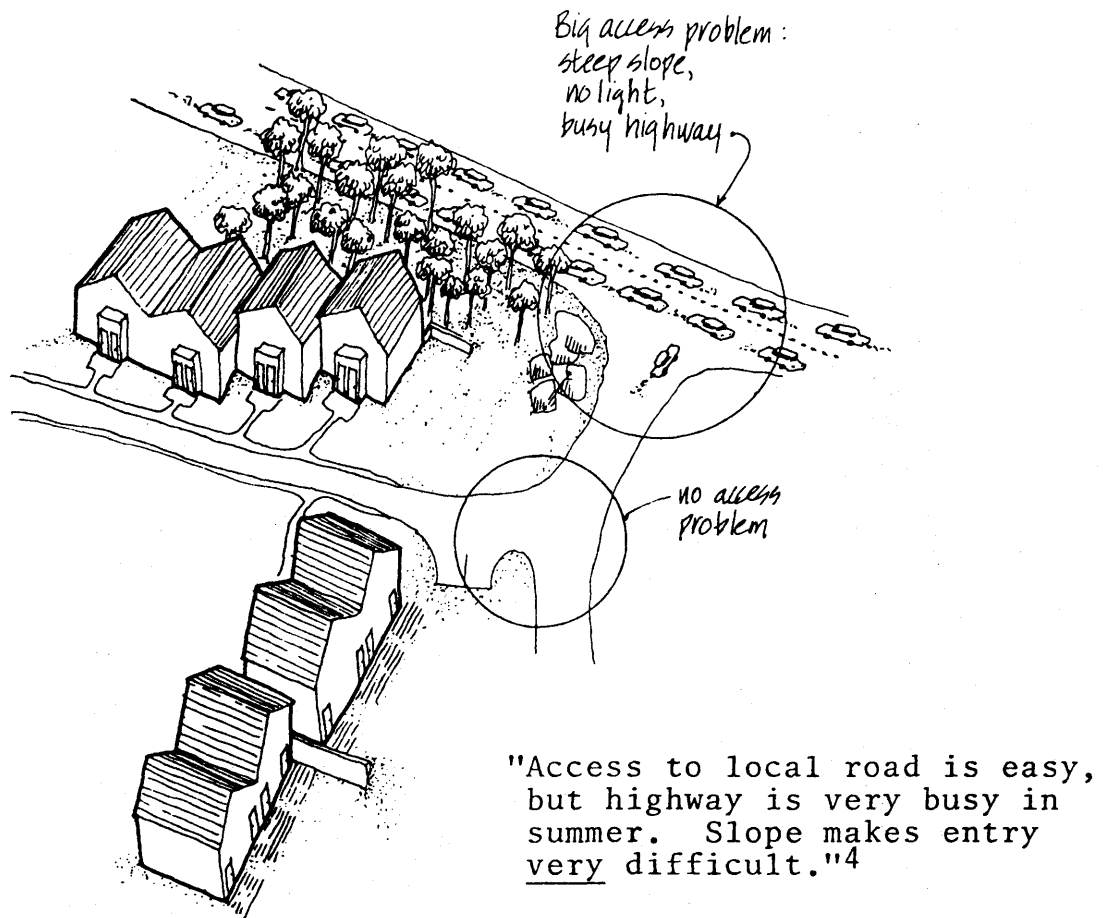
This access restriction occurs very close to home, but still does not cause the level of frustration that seems to come from too distant parking--we find no mention of anybody moving out because of it. Perhaps this is because other vehicular options are available; even though most amenities are closer via the highway, the individual does not have to use the highway. Thus his sense of connection is not so severely eroded.

There seems to be a correspondence between the level of frustration caused by a particular difficult access and the degree of "fullness" which is available through the movement

4 Andersson, Studies of User Satisfaction in Three Developments: Project Summary, p. 12

channels not affected by this access. If a particular move-
ment channel does not contribute significantly to experiential
fullness, i.e., if other movement options are easily access-
ible, a restriction of access to the one option will not be
experienced as particularly frustrating.

This correspondence has a reverse implication: if exper-
iential fullness is not available within a certain local area,
the need to have access to and to use the movement channels
beyond this area is greatly increased--assured access becomes
essential.

LACK OF FULLNESS WITHIN/EASE OF ACCESS WITHOUT:
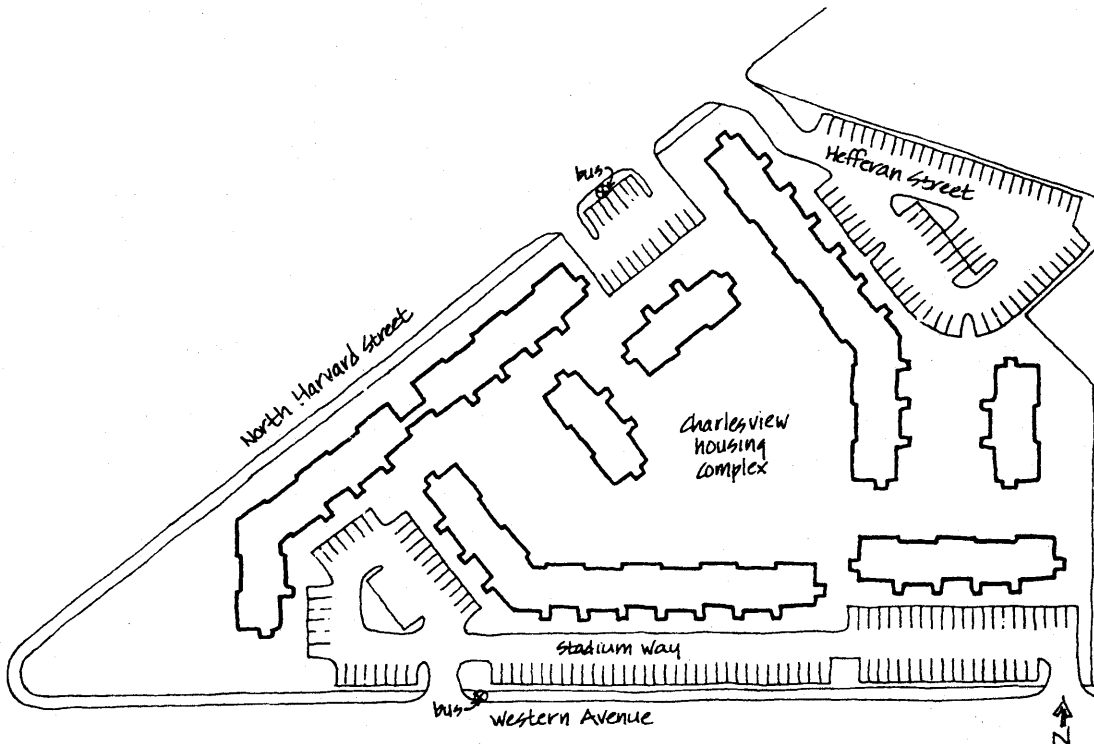
"Initially, the research team felt that the site, in the
middle of so many non-residential uses, was a difficult and
unlikely location for 212 units of housing. We hypothesized
that the residents might feel cut off and isolated from the
neighborhood...over one-third of the residents spontaneously
mentioned liking something about the location of the housing...
residents like the fact that the site is located close to bus
lines, shopping centers, and Harvard Square. One-fifth of
the sample mentioned 'convenience' or 'easy access to anywhere'

as what they like most about living in Charlesview...they did not mention being bothered by the busy streets..."[5]

Access to these busy streets is not difficult--convenient transit stops extend access even to those who do not have vehicles--and there is a lot going on at the other ends of these streets to cause people to want to use them as movement channels. Moreover, the absense of almost all but the most basic amenities within the complex (there is a small grocery store, a drug store, a laundry and a beauty parlor) makes the frequent use of these external movement channels a necessity.

The easy access conditions, coupled with a real need for frequent use, allow the streets surrounding Charlesview to serve as positive connecting elements, as bonding channels, much more than as isolating elements

It is ironic that the architect shared the researchers' initial hesitations about the site location; and concluded that the best solution to the presumed "isolation" was the design of an inward-turning community. In principle, the concept of hierarchical "fullness" of movement patterns was used to generate a site design with a self-contained set of movement options. The grouping of buildings around one large and several progressively smaller spaces, leading to shared stairwells, and finally to the privacy of the individual unit, was intended to provide inhabitants with the greatest possible range of spaces to move through--a full hierarchy of transitions from large to small, from public to private. The factor which is unfortunately missing from this fine intention is the critical reason for use.

Researchers asked residents to show on a site map how they moved to the places where they needed or wanted to go, and concluded:
"...the spaces were not used for movement as planned. Pedes-

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[5] John Zeisel and Mary Griffin, Charlesview Housing: A Diagnostic Evaluation (Harvard University, 1975), pp. 29-30

102.

trian traffic through the central space is minimal...[the arch-
itect] thought that the central space would be used by resi-
dents criss-crossing back and forth on their way to and from
different places. But analysis of the maps reveals that very
few residents cross the central space or one of the cluster
spaces when carrying out these three basic activities [going
to car, bus or food shop]."[6]

The researchers describe the central space as a "no man's
land," commenting that,

"...[the] 'hierarchy of spaces' exists only as different sized
grass plots, and not as different places containing a variety
of uses. There is nothing to do in any of the communal spaces--
no benches to sit on, swings to play on, or flowers to look
at."[7]

Even the entrances to the units are, for the most part,
placed around the exterior perimeter of the complex--thus
there is one less reason for using the movement channels which
formally exist in the interior spaces.[8]

The moral here is that spatial and experiential gradation
is not enough to guarantee the success or the use of intended
places for moving through. Such gradation and variation helps
to encourage positive bond-formation, place-imaging, along
the path of movement, but in itself is not enough to insure
that movement will even take place. If movement does not take
place, the most carefully planned spatial articulation seems
superfluous--the capacity for fullness in spatial bonding which
is inherent in it goes for nought.

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[6] Zeisel and Griffin, op.cit., p. 34

[7] Zeisel and Griffin, op.cit., p. 54

[8] Zeisel and Griffin, op.cit., p. 48

INCONVENIENT ACCESS + BY-PASS OF FULLNESS + CRITICAL REASONS
FOR USE = BIG FRUSTRATION:

This is the only way in
and out of the site.
Residents can't drive
to a grocery store,
gas station, drug
store, or anywhere
else without going
on 128, and without
going 2 miles out of
their way to get back.
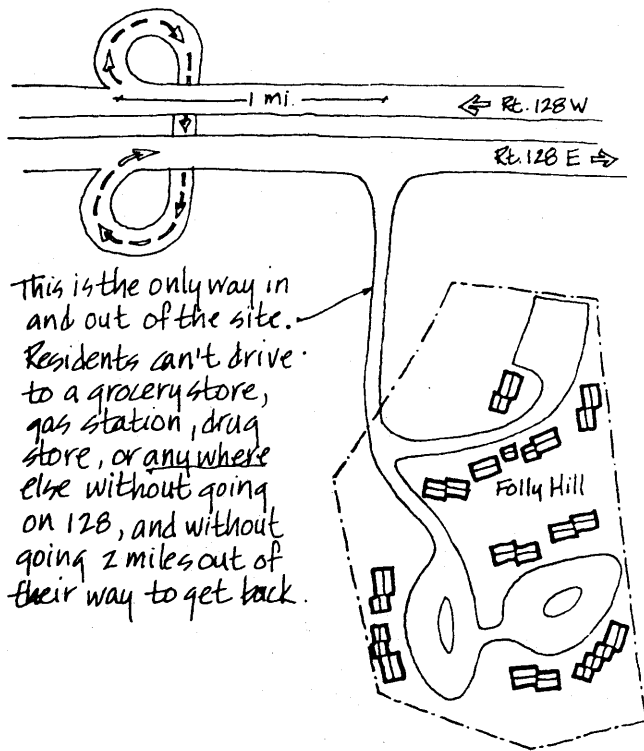
" Access to 128 is a major
problem for two reasons.
First, it is the only
exit from Folly Hill, so
that the smallest need
requires a trip on 128.
Some think this requires
too long a ride, and
others simply hate to
drive on the superhighway.
More importantly, one can
only get on or off going
East. This irritates
people to the extent that
it is a major cause for
leaving the complex. In
trying to enter or leave
from the wrong direction,
about a 2-mile detour
must be endured."9

Strictly speaking, access problems here are not as severe
as they would at first glance seem. Entering 128 at most times
of the day is no more difficult than entering most major free-
ways--that is to say, some people really hate to do it, but it
is usually done without mishap and without delay. Returning
from the East is obviously circuitous, but probably doesn't re-
quire more than 5 minutes extra driving, at the most. Compared
to driving situations in most densely populated areas--where
1-way streets, long stop lights, 25 mph speed limits, right
angle turns and other jigs and jogs are a matter of course--
the driving situation at Folly Hill cannot be seen as infinite-
ly more inconvenient in terms of time involved. Yet it is
much less accepted, and causes much greater frustration, than
the slower, stop-and-go trips that people elsewhere make to

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9 Andersson, Studies of User Satisfaction in Three Devel-
opments: Analysis--Three Projects (unpub., Boston, 1975), p. 1c

places beyond their homes. It has an intensely inconvenient image.

This is so for at least two reasons; the first is that the perceived connection on the West-bound trip is discontinuous. At one point in every trip, either coming or going, the resident is directly across the road from his home territory but is denied direct access--he must keep on going away from his home in order to arrive back at his home.

The second reason for a very unsatisfying perception is that there are essentially only two hierarchical levels of intimacy which contribute to the vehicular experience of coming home or leaving home. Instead of passing through a gradual and complete range of spatial articulation--where there are many levels of transition between the intimate and highly articulated and the gross and diffuse--the resident is immediately plunged into the biggest, fastest, most crowded, least articulated scale of vehicular travel which exists. There is no opportunity for him to experience his environment as a world of hierarchically diminishing intricacy, which is the kind of world view his existential needs require.

Thus the acutely incomplete and singular network of movement channels which is available to residents here does not correspond structurally to the kind of meaning network the individual needs to develop; it offers grossly insufficient bonding potential. Lacking fullness to such a degree, it in fact presents a basic frustration to the individual in his efforts to construct a full meaning network.

OBLIQUELY EXPRESSED DESIRE FOR FULLNESS:
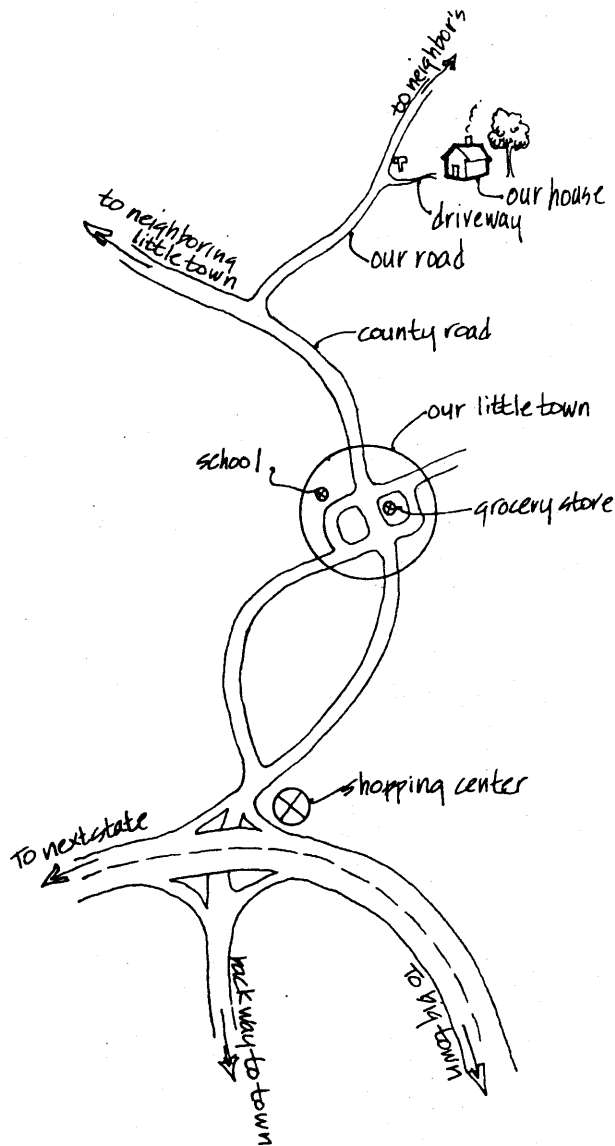
"We have a car. If we lived far out from town, it would be more relaxing to drive somewhere .instead of just stepping in and stepping out."[10]

The above comment was given in response to a question Cooper asked Easter Hill Village residents about whether they would rather live in a "good" neighborhood poorly located or a "poor" neighborhood well-located. "Poorly located," interestingly, was in this case interpreted to mean far-out, inconvenient in terms of the time and distance from desired or needed amenities.

The respondent's answer, however, acknowledges the positive values of movement through time and distance; real values which were totally missing (and sorely missed) in the last example we considered. The residents at Folly Hill did "just step in and step out," and they hated it for its abruptness. It should be relaxing to make leisurely trips from your small and intimately known private realm to places which are progressively larger and farther away--getting to know and understand the places close-by with a fair degree of completeness,

_____
   [10] Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.175

because they are more slowly and more frequently traveled to and through; and forming less intense place-bonds with more distant places, because travel to them is less frequent.

In response to Cooper's question, persons <u>with</u> cars chose the poorly located neighborhood; while perscns <u>without</u> cars chose the well-lccated neighborhood. This suggests, of course, that <u>access</u>, once again, is preeminent; the positive values of hierarchical movement are lost without access to movement.

LOCAL FULLNESS/LACK OF ACCESS BEYOND (+, INCIDENTALLY, LACK OF REASON TO USE ACCESS BEYOND ANYWAY):
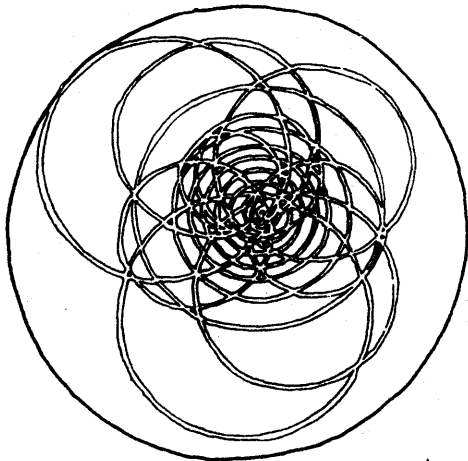
Conceptual analogy to Boston's West end space.

"West End space--and space in most centrally located working-class neighborhoods--is punctuated and interspersed by streets, traffic, pedestrians, stores, all of which produce a greater impression of openness, or at least the possibility of openness, of gateways to the outside, interweaving the neighborhood with the outside world through a series of spatial and social gradients."[11]

Until the advent of the 1950's zeal for "urban renewal," Boston's West End was a stable and organic neighborhood for lower-income people; less euphemistically, it was termed a "slum," although some of the social problems usually associated with slums were absent there.

The spatial characteristics of this area are described in the passage above by Chester Hartman, a social critic who did before-and-after studies of the West End residents; what

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[11] Chester Hartman, "The Limitations of Public Housing: Relocation Choices in a Working Class Community," <u>Jour, AIP</u>, XXIX, 4 (Nov. 1963), p.285

Hartman refers to as "the possibility of openness...through a series of spatial and social gradients" corresponds quite accurately to the kind of easy access to movement through hierarchically articulated spaces that provides for effective place-bonding through a network of movement channels.

The permeability which characterized the whole area did in fact exhibit its greatest articulation at the most immediate level: within and at the perimeter of the dwelling unit. Marc Fried and Peggy Gleicher, who conducted companion studies to Hartman's, comment on, "...the high degree of permeability of the boundary between the dwelling unit and the immediate environing area...the use of all channels between dwelling unit and environment as a bridge between inside and outside: open windows, closed windows, hallways, even walls and floors."[12]

Yet Hartman's suggestion that there was "the possibility of gateways to the outside" is misleading; in fact, although 55 per cent of those interviewed by Fried and Gleicher had lived in the West End (i.e., right in Boston) for longer than 20 years, only a quarter of all interviewees claimed any familiarity with other parts of the city--and most of these claimed familiarity only with directly contiguous areas.[13] The fact that most residents did not have cars underscored the geographical isolation of the West End; the actual access to non-West End places was very limited.

Still, this was not felt as frustrating, irritating, or limiting by the residents here, because they had little reason to use such access anyhow--everything they wanted and/or needed was available right in the West End: necessities, services, friends and relatives, entertainment, etc. The local movement channels were intensely used and highly articulated; and all of the studies of the area emphasize the powerful place-attach-

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[12] Marc Fried and Peggy Gleicher, "Some Sources of Satisfaction in an Urban Slum," Jour. AIP, XXVII, 4 (1961) p. 308.

[13] Fried and Gleicher, ibid., p. 310

ment which the residents were able to form through experience in movement.[14]

The tragedy of limited access and limited reasons for use only became apparent when relocation became a reality. At that point, the residents were faced with the destruction of their total known world; they had almost no place-image of or place-attachment to the world beyond the West End because they had rarely traveled to it or through it for any reason. The effects of a forced transition into the unknown, un-experienced, un-meaningful, were devastating to many of them.

It is difficult to assess the real moral of this story: on the one hand, these people were able to develop an incredibly full positive local bonding potential while it lasted; on the other hand, it did not last--and since the local was all that was developed, its destruction was crushing. Would it have been better for these people if they had had to leave their home area from time to time for some absolute necessity, or would the short-term frustration of this inconvenience have undermined the completeness and positivity that existed within the area? Was it healthy or unhealthy for these people to construct complete life patterns, full meaning networks, so intensely within a spatial enclave--or is there any value judgment we can make when we pit short-term health against possible long-term loss of health?

Certainly we cannot suggest that people should live in anticipation of forced relocation; or that they should endure present frustrations "just in case" they later need to know how. But when horizons and experience can be broadened, even with a limited amount of frustration, the resulting enlarged meaning network would seem to be positive--not just because one might one day have to live in another part of the world,

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[14] See Hartman, op.cit., Fried and Gleicher, op.cit., Marc Fried, "Grieving for a Lost Home," The Urban Condition, ed. Duhl (N.Y., 1963), pp. 151-170

but because some understanding of the world as a progressively larger space is positive now. Such an understanding is possible only through the effective bonding use of a hierarchical network of movement channels: one which has access, fullness and reason for use.

The network of movement channels which existed in the West End offered easy access within the area and greatly restricted access without; many critical and non-critical reasons for use within and hardly any without; and a high degree of fullness within, but none beyond. Its bonding effectiveness also terminated at the area's boundaries; truncated by the absence of the three crucial parameters beyond.

It is interesting to compare briefly the different movement situations, and different respective directions of place-bonding, within the West End and at the Charlesview Housing Complex (which we considered in an earlier example). These two living places seem to represent two opposite extremes in inside and outside access, fullness, and reasons for use--even though the architect of Charlesview initially saw similarities between the two situations, and sought to develop these similarities even further in his design.

Both areas, in the first analysis, seemed to be isolated. The geographical and circumstantial isolation of the West End did in fact encourage the burgeoning of place-bonding activity within the area; however the presumed isolation of the Charlesview site did not, in fact, exist--the surrounding movement channels connected too well for this to be the case.

Furthermore, the actual channel-like form of the movement channels in the West End--openings, paths and roads going between and around places--encouraged a feeling of openness to places, even though the area was very densely built. This image of openness to places was translated at Charlesview, however, as open places, which is a very different, much more

ambiguous thing: open places which are
there "for people to move through"
lack clear definition as movement
channels, and also lack clear defi-
nition as places to be _in_. This,
coupled with a lack of reasons _either_
to move through or to be in, severe-
ly diminishes the bonding potential
of these places.[14] Movement channels
are conceptually open; they invite
the individual to bond himself to
other places _through_ them. The neutral "open space" may in
contrast emphasize non-openness; it may seem to be almost a
non-place, as closed as a brick wall to bonding overtures.
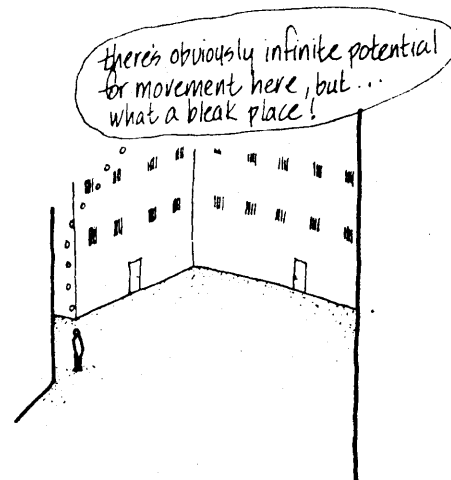
Most of the foregoing discussion has dealt with the po-
tential that the movement channel offers to the individual to
form bonds with places beyond his home. Because the home is
the _origin_ of movement, however, the
bonding effectiveness or non-effect-
iveness of the movement channel in-
fluences the individual's perception
of the home's place-value as well.
It is the home which offers or denies
the most immediate access points; it
is the home's location which deter-
mines more distant access points, a-
vailable fullness, and distribution of movement patterns. Thus
the home is the object of "good" meaning bonds whenever it
makes possible the formation of "good" meaning bonds to other
places. It is also the object of frustration and negative

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[15] Hartman, op.cit., p. 285, comments that West End resi-
dents would not consider living in public housing projects be-
cause they seemed tight, crowded, closed; even though they
had objectively greater percentages of "open" space than did
the West End.

feelings whenever it makes the formation of other place-bonds more difficult or less fulfilling.

It is very often not within the architect's power to determine external factors of access, fullness, and distribution of use-goals as they affect movement to and from his building. Yet the immediate considerations of these three critical factors are well within the scope of design, and should be maximized by design. The examples which we have discussed here provide only a sampling of the ways in which these factors may interact to produce or diminish overall good bonding potential; hopefully, an understanding of the influences at work in these particular situations may act as a basis for understanding and working with the concept of movement channels in other situations.

DESIGN IMPLICATIONS

1. People should be able to move about easily, both inside their homes and outside their homes; and should be able to go from one to the other without encountering undue difficulty.

Inside, stairs should not be steep, slippery or hazardous; doorways should not be constricted or be places where clutter collects; circulation should not be long or boring or go winding around circuitously through furniture and other things and people before it gets to where it is going; those places that people go to most often in the house should be easy to get to and easy to get out of--they should not be stuck away in the farthest corner or up three flights of stairs.

Outside, the critical routes and access points that people use--those which have to be used often, and for critical functions--must be protected from natural elements and social elements as much as possible. Wind and rain and snow should not blow into entry ways; walkways should be as protected as possible from these things too. Windbreaks can be used if wind is a problem, or a shelter might be feasible if the walkway is often used.

Steps may be necessary, but if they are not necessary, and are placed along a critical path for the sake of allowing the individual to experience a level change, they are often not appreciated. Level changes lose their mystique after about the tenth sack of groceries has been carried up them in the rain.

There shouldn't be places where muggers and murderers and evil forces can lurk along the critical movement paths, nor should there be places that invite accidents--where cars can mow down pedestrians or little children can fall off edges.

2. People should have alternate points of connection and

routes of movement wherever possible; a singular connection is a tenuous connection.

3. Movement channels should go through places, and between places, and should be related in scale and degree of articulation to these places. A Bavarian village can't be experienced very well by driving through it on a freeway.

Movement channels should also be related in scale and articulation to their point of origin, the house. A whole hierarchy of movement possibilities should evolve from this point, starting small, slow and intricate, and only becoming big, fast and diffuse at some distance away.

PHYSICAL PERCEPTUAL CHANNELS

    Those things around him that the individual is able to
sense directly--to <u>perceive</u> as existing in the real world as
symbols of themselves--go to make up his "environmental image."
The situations that allow this immediate sensual perception
to take place are Physical Perceptual Channels; their <u>bonding</u>
value resides in the fact that they are used to construct an
environmental image--an understanding of how all the parts
of the sense-accessed world fit together and how the individual
also fits into this scheme.

Physical perceptual channels
and movement channels are
use-interrelated in this im-
age construction: it is
possible to perceive a lot
of things that are beyond
the realm of movement, but
it is not possible to see
them <u>from</u> anywhere but
places that can be moved
to. Thus movement chan-
nels may be thought of as
access to perceptual channels; points within movement channels
are origins of perceptual channels. Movement allows a con-
stant relocation of the focus of perception.

destination
of movement;
origin of
perception

perceptual
range

origin of
perception

origin of movement;
origin of perception
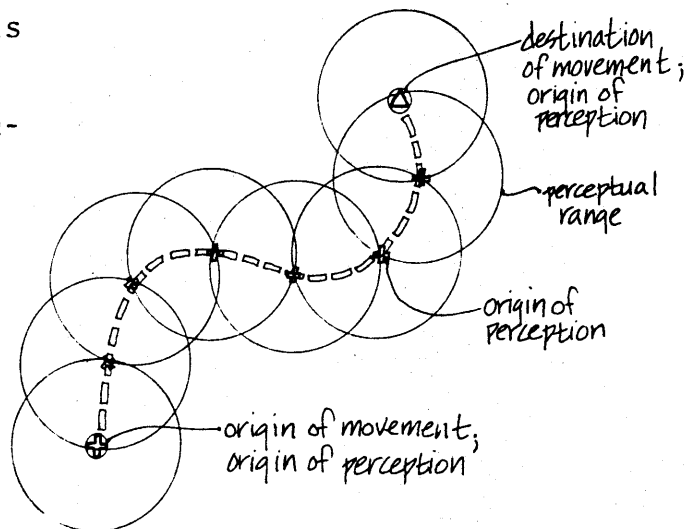
INITIAL ACCESS: PERCEPTION OF THE POTENTIAL TO MOVE
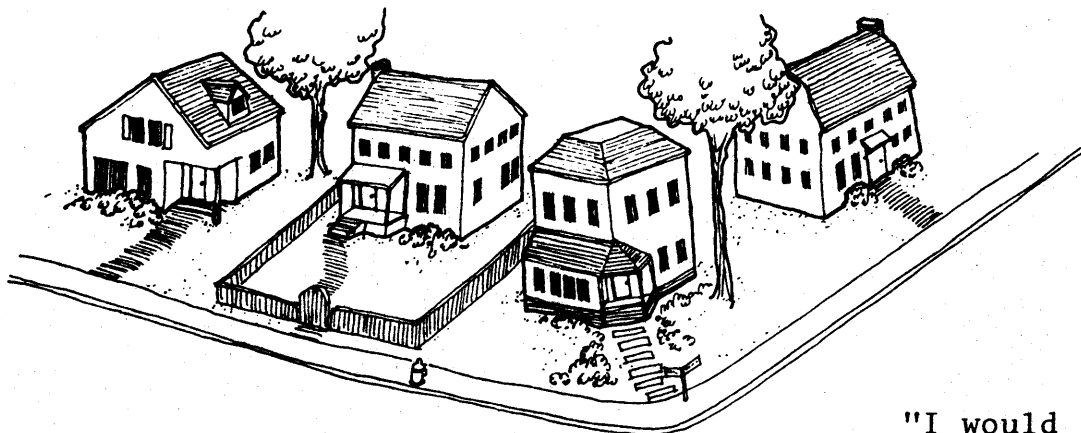
"I would like
my house to be sur-
rounded by shades of
green trees and flowers
even in the middle of the
city. It should have a porch
and the painting should be in
bright colors. It should be
facing the corner of the
street where we have access
to all transportation and
other facilities in the city."[1]

- ADL low-income panel
member

A fundamental perceptual act--which takes place at the
origin of movement, the house--is perception of the potential
to move; all further bonding perception depends on the exist-
ence of this connection. The eloquent little comment above
reflects the importance of this idea.

The woman whose words these are was asked by ADL to des-
cribe her ideal house. She indicates that, for one thing,
she wants to be able to move from her house; to be connected
to the maximum potential to move. Moreover, and more import-
antly to our discussion here, she wants to perceive her con-
nection to movement as direct; she wants it to be formally as

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[1] Arthur D. Little, Consumer Preferences in Housing,
(Cambridge, Mass., 1973), p. 63

116.

direct, forthright, unambiguous--as _perceptible_--as possible.
One has the feeling that she will be twice as connected if
her house faces the corner, although this orientation would
hardly alter her real potential to move in the slightest--
there would be nothing to prevent her from walking the infin-
tesimal distance _around_ the corner if her house faced onto
one street or the other. The houses next to her on either
side have unrestricted, uncomplicated access to the bus and
to both streets as well--but their connection cannot be per-
ceived as being so direct, and it is this perception that is
so important that it is included in her brief description of
the ideal.

If we consider for a minute that this woman's house might
still be situated on the corner lot, but that the entry might
face the back fence instead of the corner, it becomes evident
that her perception of connection would not be nearly so sat-
isfying, even though her walk to the bus would be only minim-
ally longer. But she does not envision a skewed, indirect,
Frank-Lloyd-Wright-ish entrance at all. It is the physical
directness of a corner-facing _front_ _door_ that represents the
connection pattern and the orientation she wants: she can
simply _look_ at it and _see_ how well-connected she is.

TO SEE: THE PRIMARY MODE OF PERCEPTION:
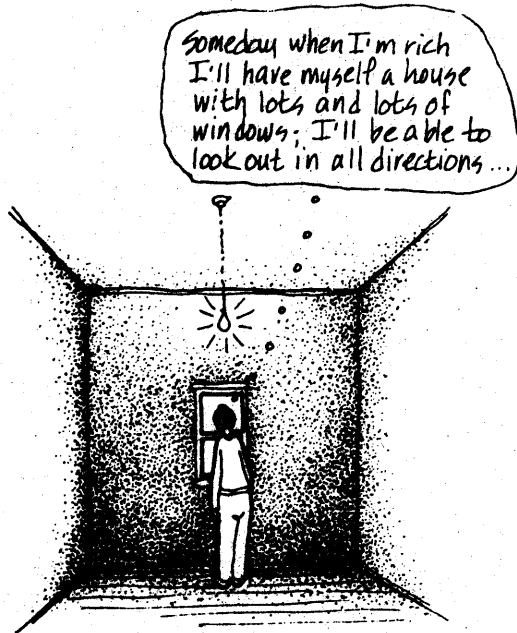
Re: Low-income consumers of rental housing...

"...their preferences include larger rooms, more bedrooms, washing machines in each dwelling unit, more windows, spacious kitchens and reliable sewage and plumbing systems..."[2]

Here, in the middle of this straightforward list of gross space needs and nitty-gritty conveniences, we find stated very simply, "more windows." More windows do not make life easier in the same way that more space or more reliable plumbing does. Windows (especially in this era of artificial lighting) perform a pure bonding function: they allow the individual to see out into his environment.

Since people are vision-dominated beings--unable to differentiate through other senses with the same subtlty that is possible to the eyes--seeing represents the primary perceptual mode which is used in the construction of an environmental image. If we can see our environment, we know what it is; we understand it. Not so if we can only smell it or hear it--then there are frustrating holes in our understanding that must be filled in by vision.

The ability to see out from one's home, then, is just about as basic as the ability to get out from one's home; i.e., it is as indispensible as pure access, pure space or pure utility, and rightly belongs on the above list of basics.

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[2] Arthur D. Little, op.cit., p. 14

TO HEAR, TO SMELL, TO FEEL, TO TASTE: FULLNESS

"...[for the resident in a West
End dwelling unit] even the
sense of adjacent human beings
carried by noises and smells
provides a sense of comfort."[3]

There are holes in an environmental understanding which
the individual constructs through visual perception alone,
too. Even though these are not as frustrating as the holes
which result when vision is the missing sense, the resulting
image is not complete and may be considerably filled in and
elaborated by the perceptions of the other senses.[4] Windows,
for example, may allow the individual to establish what is
going on in the outside world by hearing it or smelling it
(either of which may be good or bad), or by feeling its air
move through his home, as well as by looking at it.

Most people don't use these secondary perceptual channels

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[3] Marc Fried and Peggy Gleicher, "Some Sources of Satis-
faction in an Urban Slum," Jour. AIP, XXVII,4 (1961), p.308

[4] Because I love this piece of information, I'll include
it. Carl Jung, Man and his Symbols (Garden City, N.Y., 1964),
p. 36, describes an instance involving a man who, while walk-
ing in the country, was suddenly overcome by a montage of
childhood memories. Unable to pinpoint the experience that
had triggered these memories, he retraced his steps and found
that he had passed a place which smelled of geese; this smell
was familiar from his childhood, and had caused his stream of
reminiscences. Yi-Fu Tuan, Topophilia: A Study of Environmen-
tal Perception, Attitudes and Values (Englewood Cliffs, N.J.,
1974), p. 10, suggests that as vision is a learned sense,
while smell is an invariant one, smell can trigger earlier
memories that visual perception cannot, i.e., when we go back
to a place of earlier experience, even though it is spatially
the same, it looks different, but it still smells the same.

very much, or don't become aware that they do use them until the effects become more disruptive than comforting. The "fullness" of perceptual bonding that Fried and Gleicher describe as existing in the West End (on the previous page) is exceptional, partly because of the heightened sensual awareness that these people seem to have toward the sounds and smells of others, and partly because of the positive feelings that derive from these sounds and smells.

COINCIDENCE OF PERCEPTUAL WITH CONCEPTUAL: REASONS FOR USE

In other places, we find that people do not always look upon their more subtle opportunities for perceptual bonding with such favor. This is because perception--especially of sounds and smells--is indiscriminate and non-selective. Whatever there is to be heard is heard; whatever odors are in the air to be smelled are smelled--and sometimes the meanings that accompany these perceptions do not reinforce the environmental image that the individual wants to have.

Both Cooper and Andersson comment about the irritation that sounds from adjacent units caused to residents in the projects they studied. These people were not comforted by the sense that other people were near-by, because the intrusive human sounds added a different kind of information to their total image.

Andersson remarks that severe sound isolation problems at one development "...convinces them [the residents] of the general shoddiness of construction."[5]

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[5] Andersson, Studies of User Satisfaction in Three Developments: Analysis--Three Projects (unpub., Boston, 1975), p.2-c

Cooper says quite bluntly, "...the architects...probably made a mistake skimping on the sound-proofing between adjacent units while putting in wood paneling and beams in the living room."[6] These residents too were not really able to appreciate the image of quality that wood paneling and beams might have evoked if the uncontrolled acoustical perception had not made the general lack of quality so obvious.

In both of these places, residents had no reason to use the acoustical perceptual channels--use was forced upon them; they were not listening hard and carefully to find out what was going on in their environments. Moreover, the environmental information which this forced use provided was negative instead of positive, implying more than anything else that the environment did not hang together as it should.

We suggest more basically that such random perceptual intrusions also spell an invasion of the most intimate level of a hierarchically constructed environmental image; and thus act at cross-purposes to the development of a wholesome and coherent meaning network.

Comparatively speaking, the individual's use of the movement channel, for example, is deliberate. He doesn't have to go where he doesn't want to; and he doesn't go anywhere without some motivation to do so. It is this deliberateness, this being-in-control of his own bonding activity, that allows him to continually reinforce his already existing meaning network.

Perceptual channels should be used in the same controlled, selective way; otherwise the information which is received through them, the meaning bonds which they offer, do not contribute to the individual's sense of fitness between himself and his environment--or do so only accidentally.

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[6] Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.73

CONTROL OF ACCESS, FULLNESS, AND USE:

the view is really much better this way
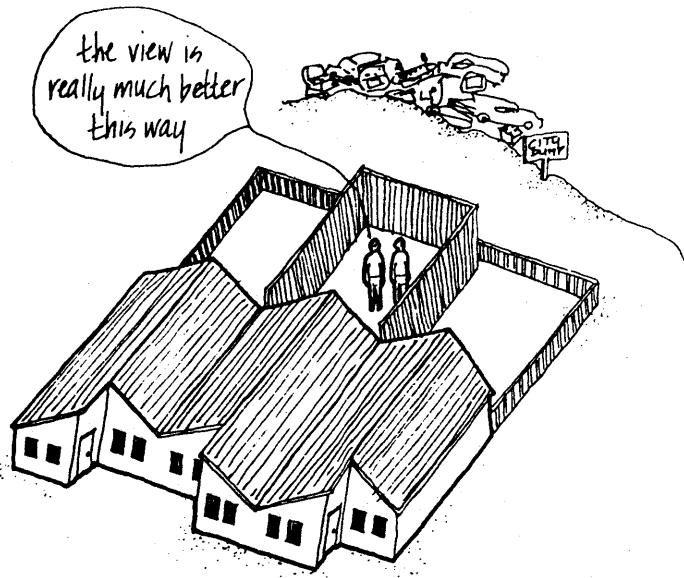
"...as many people wanted wanted a solid fence [around the back yard at Easter Hill Village] so they wouldn't have to see what was around them, as wanted it in order to prevent other people from seeing them...views of unkempt yards, of stretches of open space that the Housing Authority had permitted to revert to bare dirt, of vacant lots and filling stations..."[7]

"It's nice to see around if there's something nice to look at--here all there is is dirt."[8]

- resident at Easter Hill

Use of existing visual perceptual channels around Easter Hill Village provided information about an environment that was basically inhospitable, non-welcoming, to the residents. Such information is counter-productive when it comes to constructing an environmental image which assures the individual that he is rightly at home where he is--that he belongs, is a part of, is connected. It tells him, in fact, the opposite.

It is small wonder that the residents here wanted to build walls in front of these unfriendly perceptual channels, and to enclose small, short-range, more friendly and more manageable environments as the objects of their bonding activity.

This kind of drastic, once-and-for-all exercise of control seems to present the only viable mediation between indiscriminate perception and an impossibly hostile environment.

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[7] Cooper, op.cit., p.87

[8] Cooper, op.cit., p.87

FUNCTIONAL USE OF AN ENVIRONMENTAL IMAGE: ORIENTATION THROUGH
FULLNESS:

"Several people mentioned tell-
ing friends they live across
from the Harvard Stadium or
next to TV station WGBH. The
surrounding neighborhood helps
orient residents and their
guests by providing landmarks
which residents can use as
points of orientation."[9]

The orientation value of a well-defined environmental
image is clear: it places the individual and his home in a
context of physical relationships which are positively under-
stood and identifiable. The physical perceptual channels are
the bonding channels which allow the individual to have such
an image; its production is their primary function.

Several factors must be environmentally present for this
function to be performed effectively: the individual must have
access to a number of perceptual channels from any point (but
especially from his home); he must be able to move so as to
perceive from other points; he must be able to be selective
in his perception, adapting it to the functional and associa-
tive needs he has for awareness; and
finally, the environment itself must
be articulated enough to suggest
structure, patterns, and definition.
Special elements and patterned ele-
ments encourage perceptual bonding
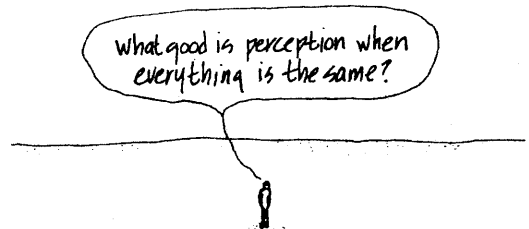
[9] John Zeisel and Mary Griffin, Charlesview Housing: A
Diagnostic Evaluation (Harvard Univ., 1975), p.31

because they can be located and related within an overall structural image; the environment that encourages "good" perceptual bonding is sort of like the musical concept of theme and variations, with a few special surprises thrown in.
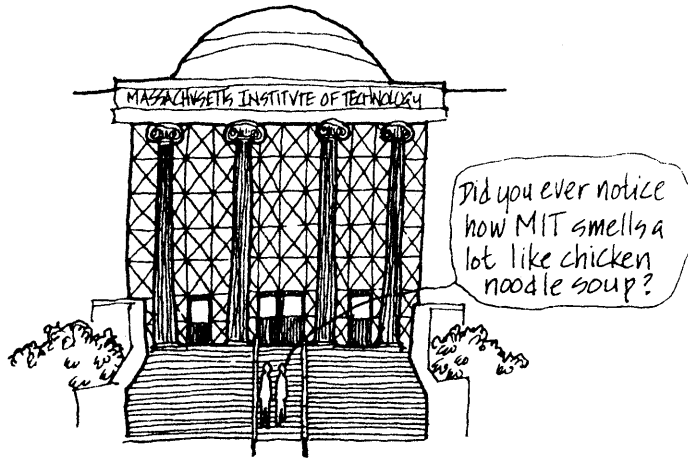
124.

DESIGN IMPLICATIONS

1. People need to have spaces and elements in their environments that can be perceived as special and different from each other, but related to each other in some coherent way. The perception of these kinds of things lets the individual know where _he_ is in relation to the environment.

2. These "things" should incorporate as much of the variety of qualities that can be sensed as possible, while still remaining comprehensible and orderly. Ranges of environmental components from big to tiny, from solid to permeable, from massive to airy, from open to closed, from obstrusive to subtle, from bright to dim, from flat to multiform, from simple to complex--and all other ranges of qualities that can be grasped through the senses--should be available within the individual's environment. _All_ of them don't have to be _everywhere_--in fact, it is much better if they aren't--but they are the space qualities which, when they are present in different places in varying combinations, allow the identification of places and place relationships.

3. People need ways to _see_ these things in the environment from their homes. They need windows and doors to look out from in all directions, and it is nice if there is a special relationship between the thing that is looked at and the place in the home that it is looked at from--a special kind of window, for example, that is analogous to what is seen through it, or a place to sit where the view is one that needs prolonged looking. These relationships make special places in the home too.

4. The places that the individual perceives from his home should have positive associative value for him. He should not have to look at garbage dumps or dirt fields or freeways or other people's windows if the view of these things tells him bad things about where he is in the world--even if these

things exhibit their own combinations of the place-qualities
listed above.

5. People need opportunities to create alternate environ-
ments to take the places of negative environments they choose
to block out: this may mean having back yards or front yards
that can be walled in and "decorated" on the inside, or having
balconies that lend themselves to the installation of plant-
ing screens or bamboo screens that can be painted on the in-
side.

6. People need ways to perceive with their other senses
too, and things to perceive with their other senses: rose
gardens, wind chimes, birds, moving air, sunshine. This means
windows and doors also, of course; but it might additionally
mean a place to plant a rose garden, a place to put a bird
feeder, a place to hang wind chimes, a place to sit to feel
the sunshine.

7. People need ways to control and be selective about
their perception: in the first place, they need to use control
as an option to constantly and forever perceiving negative
things in their environments; and in the second place, they
need to use control to make sure they don't perceive so much
that all of their perceptions become disorderly. The noise
of a freeway at close range, for example, drowns out people's
normal speaking voices; it is a perceptual overkill that makes
all sounds indistinguishable. Some cities (Minneapolis is a
case in point) have taken the trouble to put sound barriers
along-side of freeways that go through residential areas. The
same kinds of controls at a much smaller scale are called for
in the home. These may be operable or permanent: they include
windows, doors, shades and curtains, and sound isolation, ob-
viously. They also include the individual's rights to do
something about his own perception--to build a wall or to
plant a row of poplars or to hang a bunch of plants in his
windows or to petition for a super-graphic on the building

across the way if he decides he would like the view better that way.

8. A very basic design implication of perceptual bonding is that the individual should be able to create whatever perceptual environment he wishes inside his home--he should be able to make it look, smell and feel just the way he wants it to. This means in part that his home should be flexible and operable, and lend itself to easy re-arrangement. It also places emphasis once again on the importance of a guaranteed right to perceptual control: painting walls and hanging pictures are pretty important.

PHYSICAL CONTROL CHANNELS

Earth! You seem to look for something at my hands..."[1]
                                  - Walt Whitman

　　Having access to physical control channels means being
in an environment that is responsive to individual needs and
desires--as they change over time or as they remain stable
over time. It implies an environment that doesn't fight with
or ignore its inhabitant; one that almost seems to be cogni-
zant of a responsibility for his comfort or pleasure; one that
either is already, or becomes through its inhabitant's actions,
what it is supposed to be: its most accomodating self.

　　An environment like this may come about because: 1. it
is a naturally accomodating place; 2. the individual is able
to actively intervene and change it into an accomodating place;
3. the individual has the means to signal changes to which
the environment can respond. Any of these conditions offers
a physical control channel, although the last two, which de-
pend on personal action, are more effective and more reliable
as bonding channels.

BONDING FUNCTION OF CONTROL:

"...many people's instinctive
reaction was to respond in
terms of that part of the
outside which involved them
and over which they had some
control--that is, the yard--
rather than the house facade,
which was completely in the
hands of the Housing Author-
ity and thus beyond their
control."[2]

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[1] Walt Whitman, Leaves of Grass, Song of Myself: The Port-
able Walt Whitman (N.Y., 1973), p.80
[2] Clare Cooper, Easter Hill Village: Some Social Impli-
cations of Design (N.Y., 1975), p.91

The meaning relationship, or bond, that comes about through the use of the physical control channel is a basic condition for positive bonding through any other channel; it "sets the stage" for environmental access to all bonding channels. Thus it is the one that most basically assures the individual of his place-tenure: that place where he controls access to and use of his full network of bonding channels is the place that is his--his home.

The control bond implies space-claiming; and vice-versa, claim to a space implies the right to control its formal and functional attributes. Cooper's respondents (previous page) demonstrated this correlation by answering in terms of what was theirs by virtue of control, and not in terms of what was only nominally and temporarily theirs--the yards were in fact more representative of the outside of their houses than the actual outside walls were, because the yards were theirs while the facades were not.

The function of the Physical Control channel, then, is two-fold: Control offers the individual not only a means to lay claim to his space, forming an "ownership" bond; but also a means to bring his actual environment into line with his conceptual "good" environment--which is the environment that allows him to feel connected, rooted, bonded strongly and consistently to it. Control itself creates a bond, and more than that, it maximizes other bonding opportunities.
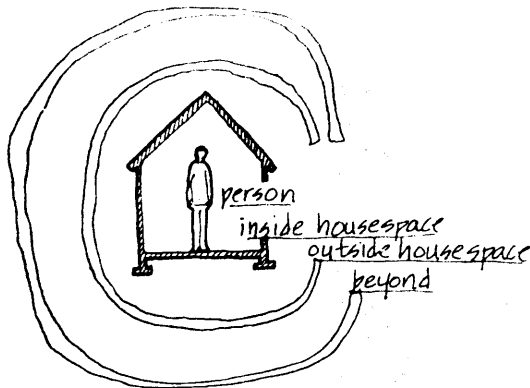
hierarchies of control

The need for access to control channels becomes more critical as the concept of "ownership" of a particular environment becomes more intensely felt; the potential to control extends, with diminishing importance, into these environmental spheres that the individual "owns" to a greater or lesser degree.

The space that the individual most indisputably "owns," and has the right to control, is that related to his own body. Lack of control over situations which affect his bodily comfort are the most frustrating failures of control channels.

For example, residents in one of the developments that Andersson studied, complained adamantly and at great length about their inability to control temperature. Andersson says:

"Almost everyone complained of cold bedrooms, to the extent of having to keep the door open to draw heat from the rest of the house."[3]

These residents had thermostats, but the environment did not respond as it should have; all the heat came into the living rooms and none came into the bedrooms. The thermostats were sham control channels more than real control channels--they promised , but did not deliver, positive environmental change.

[3] Brandt Andersson, Studies of User Satisfaction in Three Developments: Analysis (unpub., Boston, 1975), p.1-A

Henry Sanoff too, in his study of lower-income people's
dwelling attribute preferences, supports our feeling that the
need to control is greatest where bodily comfort is concerned.
He places temperature (comfort) control at the top of the list
of items-not-had-but-most-wanted by these people.[4] Chester
Hartman extends the need for control beyond personal comfort
to include personal activity. In trying to find out why West
End residents did not want to live in public housing, he finds
a woman who says, "I heard that you can't wash when you want
and lights go out at such a time."[5]

These examples suggest one thing above all else, and that
is that access to control is of the utmost importance in the
realm of personal existence. If the individual is cold, and
his environment cannot warm him; if he is hungry and his en-
vironment cannot feed him; if he is sleepy and his environment
does not allow him to sleep; then he may experience not only
discomfort but pain, and he most certainly experiences a sense
of environmental disconnection. On the other hand, if his
environment is able to satisfy him in all these ways--if he
turns a dial and warms the place up, opens a door and finds
food kept fresh and cold, closes a door and pulls down a shade
and goes to sleep--then he is able to bond himself through the
bringing about of environmental conditions which welcome him.

———————————
[4] Henry Sanoff, Integrating User Needs in Environmental
Design (North Carolina S.U., Jan., 1973), p.127
[5] Chester Hartman, "The Limitations of Public Housing:
Relocation Choices in a Working Class Community," Jour. AIP,
XXIX, 4 (Nov., L963), p.284

HIERARCHY OF CONTROL: DESIRE FOR CONTROL BEYOND THE HOUSE
ENVIRONMENT
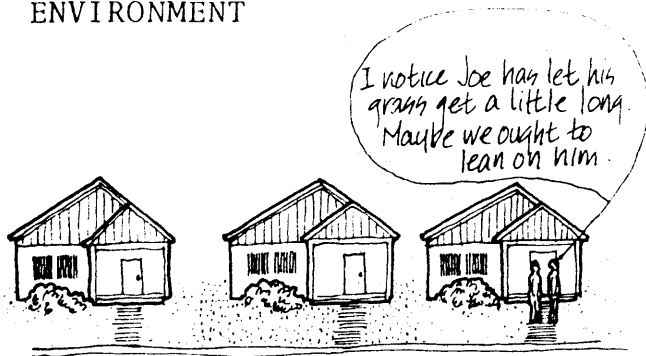
"Each apartment should take
 care of their own yard in
 their own way...but they
 should all keep them neat."[6]

The above comment was made by one of Cooper's EHV residents
expressing a not-so-subtle wish to control the appearance of
the whole neighborhood. Herbert Gans, describing his first
meeting with his new next-door neighbor at Levittown, says that
one of the things that happened straight-off was that each of
them subtly let the other know something about his environmental
standards.[7] In the same way, street standards and block stan-
dards for maintenance were eventually established, and the
deviants were "leaned on" or teased into compliance.

It is not surprising to find that individuals wish to
some extent to control everything that falls within their ex-
periential meaning networks. In a sense, every person does
"own" everything that he is bonded to, but his ownership does
not have a constant strength; it is "more or less," depending
on the intimacy of the bond.

The need to control neighborhood image (and incidentally,
neighbors) is still quite strong, because the individual at-
taches much of his personal image to it, and because it makes
up the everyday realm of his perceptual bonding. The need to
control city image is already much less strong.

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[6] Cooper, op.cit., p. 96

[7] Herbert Gans, The Levittowners: Ways of Life and Poli-
tics in a New Suburban Community (N.Y., 1967), p.48

133.

CONTROL OF HOUSE SPACE: PRIORITIES

amount of space → ⇢ arrangement of space

color and texture...

potential space uses

⇓

kinds of furniture

⇓

placement of furniture
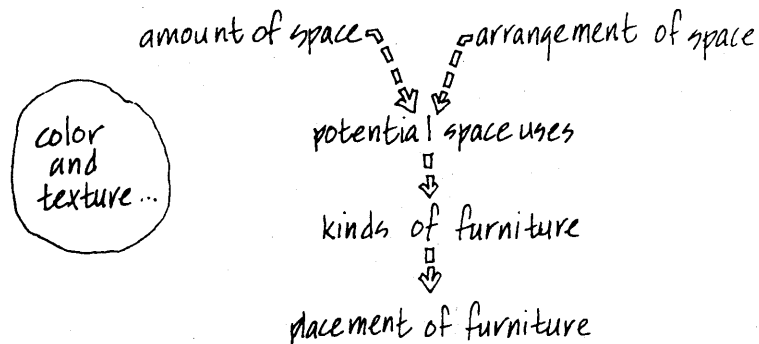
In the use of house space, certain kinds of control decisions are of a higher order than other kinds because, quite simply, they allow other kinds to happen; the higher orders of control act as access points for the lower.

Control over the absolute amount of space (and its arrangement) is the very highest level of control. It provides access to control over the use of space. Simplistically speaking, the individual can do anything that his space is big enough to let him do; he cannot do anything that his space isn't big enough for. He cannot play football in his living room; he cannot play regulation pool in an 8' x 10' room, although he can in a 16' x 16' room. The range of space-use decisions he can make is determined by the amount of space he has--the more he has, the greater is the range of control he has over the use that the space will receive.

Once the use decision has been made, it then places a second limit on the kinds of furniture decisions that may be made. If the individual does have a large enough space to play pool, and decides that playing pool is the thing, he probably does not buy a water bed or a grand piano as furniture for the space--the range of his decision-making control is limited to different brands of pool tables.

All of the factors above--space size, space use, and the particular pieces of furniture involved--determine placement of furniture; it is the lowest level of control.

On the other hand, none of the factors above determine color and texture decisions: they are independent.

COLOR AND TEXTURE: THE LAST STRONGHOLD OF CONTROL

   Color and texture don't depend on any other level of con-
trol: whether a room is big or small, whether a piece of furn-
iture is a couch or a table, doesn't determine in the least
whether it is red or blue. Yet color and texture control is
essentially a very low level of control because it doesn't.
act as an access to any other level of control either; if a
room is blue, it doesn't allow any more or different uses than
it would if it were red. This independence may account for
the considerable number of living situations (far too many)
where control over color and texture is the only level of con-
trol the inhabitants have.

                              Even this level of control may
                           be eroded if architects, builders or
                           management take it upon themselves
                           to make obstrusive color and texture
                           decisions. Since color decisions
                           may place a limit on, for example,
                           furniture decisions, a strong color
                           decision which is made beyond the
                           inhabitant's control removes access
                           to at least two levels of control
                           from him.

   Andersson, as one example, mentions the resident's appre-
ciation of neutrality (oatmeal flat carpet, white walls) in
two projects, and their unhappiness with yellow-white shag
carpets in the other.[8] Neutrality seems as though no decision
has been made by anyone else, and so control has not been u-
surped. Of course a decision has been made, but it is the
least limiting one in our culture because, presumably, oatmeal
"goes with" everything.

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[8] Andersson, op.cit., pp. 7A, 10C, and in conversation

I wonder if they'd find out if I touched the walls...
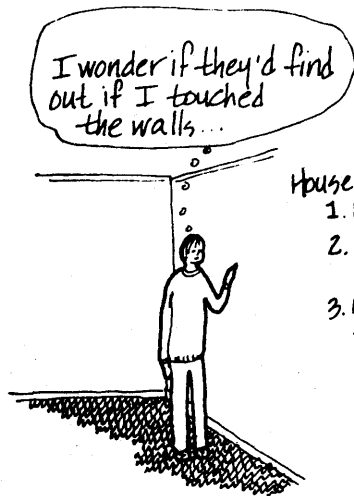
House rules:
1. no painting the walls
2. no putting holes in the walls
3. no doing anything to the walls that might change them in any way.

Then there are the housing projects where color and texture control is just disallowed out of hand--arbitrarily nixed because management can't take responsibility for something one tenant does that the next tenant might hate. A reasonable course might be to give the next tenant also the option for control, enhancing everybody's opportunities for establishing a place-relationship with their dwelling space. Instead, the practice of forbidding changes and control over even the most simple matters removes the most basic means for forming place-bonds too.

FURNITURE: THE LOWEST LEVEL OF DEPENDENT CONTROL

> "...low income renters believe they have no choice regarding quality of construction, location, design or cost of their dwelling space...low income consumers perceive their only contribution to their living space to be the internal furnishing of the unit."[9]

They can bring their furniture with them, but that is all. They can do nothing about the living unit itself to make sure their furniture will fit in it--and the possibility is great that it will not.
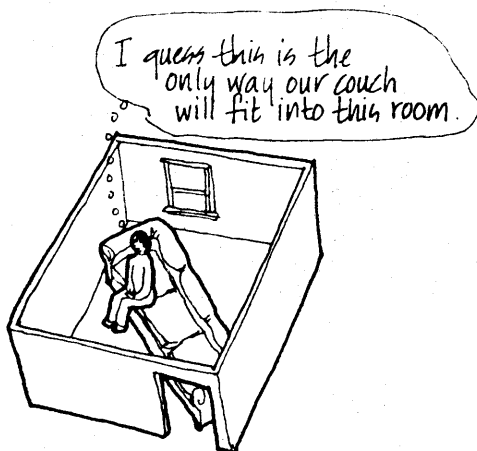
Urban Development Corporation staff and designers conducted an experiment in which they lived in UDC public housing projects for a week at a time in order to better evaluate the living conditions there. Theodore Liebman and Alan Metting say that these researchers "...developed a greater sympathy for issues of livability when confronted with inadequate barriers to sound, layouts which did not allow easy furniture placement, and the thousand and one details which are first to go, in order to meet strict budgets..."[10]

In other words, it became clear to them that living conditions that deny control over matters of physical awareness, and make difficult even the control of furniture arrangement, are not all that livable. The "issues of livability" that Liebman and Metting speak of are issues of control.

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[9] Arthur D. Little, Consumer Preferences in Housing (Cambridge, Mass., 1973), p. 14

[10] Liebman and Metting, "Learning from Experience: The Evolution of Housing Criteria," PA (Nov., 1974),p56

SPACE: THE GREAT CONTROL GIVER

no question about it...
I'd rather have
this house

"Among voluntary moves--where
the household had a clear choice
between staying and moving--the
most important factor impelling
the household to move was dis-
satisfaction with the amount of
space in their old dwellings...
The important things the respond-
ents had in mind in choosing
their present homes from all
those available to them were, in
rank order: space in the dwelling,
particular dwelling design fea-
tures, dwelling location, and,
finally, cost."[11] (my emphasis)

Lack of space is the biggest reason people have for moving;
and space is what they look for when they move. Moving, buy-
ing or choosing a house to be the focus of one's living activ-
ity, is the most important, most primary control decision that
one can make; it represents the decision-point at which first-
control--control over size and space arrangement--can be exer-
cized, and future realms of control can be established. Small
wonder that space in real terms is such a big item for people
in the initial act of choosing a house for theirs; a wrong or
limiting decision here may have a permanently negative influ-
ence on their ability to establish psychological claim.

this place won't be
half-bad when it's
a little bigger.

The other way out of
this is to make a supreme
demonstration of control--
an act to make space instead
of a choice to claim space.

---

[11] Peter Rossi, Why Families Move (Glencoe, 1955) pp. 7-9

Making space used to be, in vernacular times, the real
initial first-act of control--the act by which every person
secured the amount of living space that he needed to establish
a base for his bonding activity. Arthur D. Little suggests
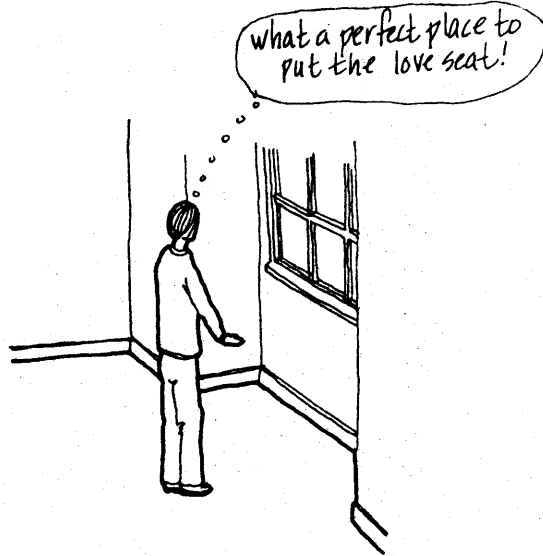that this age-old endeavor is seeing a surging come-back:

> "Expressions of the consumer preference to control
> and participate directly in the dwelling environment
> are evidenced by the powerful trend toward self-help
> rehab and home-improvement. This segment of the
> market more than doubled in the last four years, and
> now over half of major home improvements (additional
> rooms, kitchen/bath modernizations, finishing attics
> and basements, porches, carports, patios, etc.) are
> undertaken by homeowners who intend to do the major
> portion of the work themselves."[12]

There is tremendous bonding value inherent in the act
of building a space: the builder establishes an enduring tie
to any space that he creates, but especially to a space that
he creates for himself--it is really his; nobody else can
claim it in such a powerful way.

Additionally, the act of making adequate living space
and the choosing of existing adequate living space have the
same far-reaching, expansive effect on the individual's access
to a new, broader range of control channels; Thus they are
both primary, space-claiming acts of control.

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[12] Arthur D. Little, op.cit., p.8

DEFINITION: THE SECOND GREAT CONTROL GIVER

what a perfect place to put the love seat!

what a perfect place to put the sewing machine!

what a perfect place for Mary to put her organ!

Space definition, far from usurping control channels and rendering them useless the way color decisions did, seems to enhance the potential for control by offering places where control might take place. Space definition--making definable places within a larger place by varying the combination of spatial qualities--occurs at a high enough level on the priorities ladder that there are a number of levels of decision-making left to the inhabitant of the space.

Moreover, the number of decisions about use that he is encouraged to make is increased: a large space that has three definable areas encourages three use decisions, whereas a large area that is undefined encourages only one, at the most.

Definition can be slight and still be suggestive; Andersson mentions window alcoves:

"Window alcoves were always filled with a piece of furniture--desk, dresser or seat."[13]

13 Andersson, op.cit., p. 9A

Definition encourages the extension of active control to those areas right outside the house too. When it is clear what
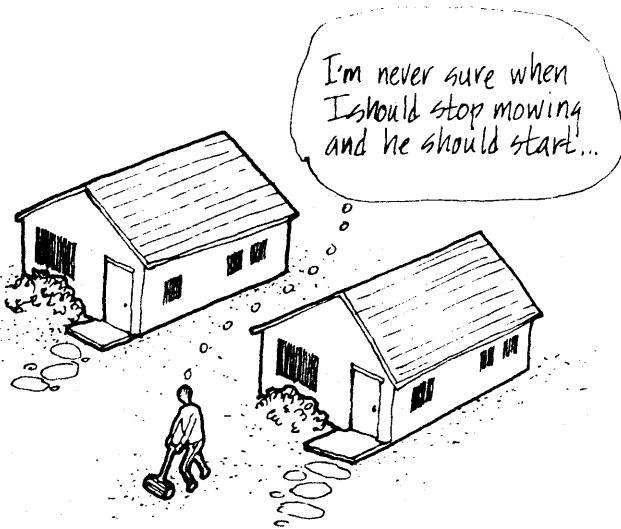
space belongs to what house--where it starts and where it ends--then the intensification of this understood ownership bond that is possible through active control is very tempting--it has sure bonding results. This is not true when the space to be controlled is ill-defined; the effort that is necessary to control may not produce certain results at all, or it may produce results that do not accrue to the individual responsible, because his relationship to the controlled space is not clear. Gans comments that Levittown residents were quite unhappy with a rule that disallowed fences between their yards--such a rule produces an ambiguous zone of no-control between houses, and severely diminishes the actual area of control that might have belonged to the residents.[14]

Zeisel and Griffin describe areas of control and no-control at Charlesview which coincide exactly with defined areas and undefined areas:

> "Yards enclosed by storage boxes and yards marked off
> by sidewalks show a very intense level of development
> and care by residents...These same ground floor units...
> have an open space of their living rooms. This appar-
> ent "back yard" is neither enclosed nor demarcated in
> any way from the neighbors...The same residents that
> cultivated spaces on the side of the units where there
> is some demarcation have rarely tried to use or person-
> alize the open spaces adjacent to their living rooms."[15]

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[14] Gans, op.cit.

[15] Zeisel and Griffin, Charlesview Housing: A Diagnostic
Evaluation (Harvard Univ., 1975), pp. 73-74

Zeisel and Griffin conclude that, "Some physical cue for residents as to where their 'turf' begins and ends seems to greatly increase the amount of territorial behavior among residents."[16]

We concur; individuals seem more likely to try to solidify a place-bond through control if they can already recognize place-values and place-relationships in a piece of ground. These values and relationships--which make a place immediately seem a place unto itself, different from other places--come through definition of its spatial qualities.

Zeisel and Griffin gently suggest as the moral to this story that, "Architects might try to provide some form of demarcation--a fence, a pathway, a jog in the building edge, a difference in ground level--since even the slightest demarcations can be sufficient boundary markers to give residents a feeling of territory."[17]

Architects might well try thousands of other things too. There is no limit to the ways space can be defined into places--each of which offers a new sphere of potential control and potential bonding--and the architect presumably has them all at his fingertips.

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[16] Zeisel and Griffin, op.cit., p.74
[17] Zeisel and Griffin, op.cit., p. 77

DESIGN IMPLICATIONS

1. People need to control the way the house functions to meet their physical and personal needs. This means, first of all, that the house must be a good, sound, tight house; and second, that it must be responsive to the environmental changes its inhabitant wishes. It must be "operative," and he must have the right, and the ability, to operate it: in this sense, it should be a "machine for living."

2. People need to control the way the house looks; they need to be able to put their personal stamp on the visual environment. Prior control decisions which the designer makes in the house should not usurp or disallow these personal stamping decisions--if it seems likely that the inhabitants will not be able to change the appearance of their house very much (through management practice or lack of resources), the designer should at least try to be subtle in his taste-making efforts.

People bring their things with them and need to find places for them in the house; hence the house needs to have places, or potential places. Things, furniture and furniture groupings may occupy a whole range of variously defined space-sizes, from very tiny corners to niches to alcoves to parts of rooms to whole large rooms. This range of space sizes should be available in the house, which means that the house has to be something other than six rooms that are all the same size and that are all defined by the same amount of enclosing wall. If it is this way, the individual who moves in has only one kind of space that he can use to place his big, little and middle-sized things in. If, however, the house has big, little and middle-sized spaces, as well as high spaces and low spaces, open spaces and closed spaces, the individual can draw his own correspondence between his things and their new places--he has a range of control options about how to occupy space.

3. People need to control their own activities within
the house; this means that the house must be big enough, and
defined in such a way as to allow activity decisions to be
made. Activity decisions, it must be emphasized, include more
than where to eat and where to sleep; there are also issues
of where and how to play, where and how to work, where and
how to get together with friends, where and how to seek quiet
and solitude, etc. A house that has only one kind and size
of space doesn't allow for these either--a real variety is
called for.

RITUAL BEHAVIOR CHANNELS

"Do thou thine allotted work, for action is better than
inaction;
Even the maintenance of thy physical life cannot be effected
without action.
. . . .
From food creatures come into being; from rain is the birth
of food;
From sacrifice rain comes into being; and sacrifice is born
of work.
. . . .

He who does not, in this world, turn the wheel thus set in
motion, is evil in his nature, sensual in his delight, and
he, O Partha (Arjuna), lives in vain."[1]
<div align="right">- The Bhagavad-Gita</div>

. . . .

"I have gone to the woods because I wished to live deliber-
ately, to front only the essential facts of life..."[2]
<div align="right">- Henry David Thoreau</div>

. . . .

"I have done without electricity, and tend the fireplace and
stove myself. Evenings, I light the old lamps. There is no
running water, and I pump the water from the old well. I
chop the wood and cook the food. These simple acts make man
simple; and how difficult it is to be simple!"[3]
<div align="right">- Carl Gustav Jung</div>

The behavior which we are calling "ritual" behavior is
actually only potentially ritual behavior; most of the time,
most people would only think of it as drudgery, the everyday
grind, routine, etc. It is repetitive, and usually seems to
go nowhere productive, but only to maintain things at a cer-
tain level. Yet, as three eminent sources suggest above,
there is intense power in the conscious and reverent doing

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[1] A Source Book in Indian Philosophy, ed. Radhakrishnan
and Moore (Princeton, N.J., 1957), p.113
[2] Walden: A Writer's Edition (N.Y., 1963), p. 70
[3] Memories, Dreams and Reflections (N.Y., 1963), p.226

of the everyday--power which puts the individual in touch with,
makes him cognizant of, a repetitive, cyclical, maintenance-
dependent meaning of his own life and of all life process.
Thus it must be called bonding power in our terms--and every-
day necessary activity offers the bonding channel that allows
it to be realized.

This activity does not become ritual behavior until it
is used as a bonding channel; but when it is so used, it brings
together into a meaning relationship the two most extreme le-
vels of the individual's understanding: his own being and the
full extent of his cosmic environment.

We are considering productive/creative work, place-main-
tenance work, bodily process activity and involvement with
earth process to be (non-inclusive) categories of activities
that offer potentially great bonding power. Because of their
repetitiveness, and because of the directness of the meaning
relationships that they imply, the activities included in
these categories are ones that may become ritual behavior chan-
nels.

Access to these ritual behavior channels means, simply,
having access to places where these everyday activities can
assume bonding overtones--can begin to imply levels of meaning
beyond themselves. This means, first, having places where
they can occur at all; and second, having places where they
can occur in ways that coincide with, support, enlarge upon
the individual's already existing meaning network. Work that
is done without distraction and without frustration; mainten-
ance that produces a satisfying result and that does not frust-
rate or overwhelm; bodily process activity that is done in a
continuous, undistracted, non-frustrating way; involvement
with earth process that is responsible, full and continuous:
these conditions offer the potential bonding power of ritual
behavior.

The research material which has suggested the existence of other bonding channels to us, and given us clues about their use and importance, must be interpreted obliquely to find support for the existence of the ritual behavior channel. In fact, much of it seems to suggest that people want to avoid as much of this activity as possible; and that its spiritual value is questionable, at best. We find expressed wishes for maintenance-free living, ultra-convenient kitchens and bathrooms, and no reference anywhere to the need for a special work-place in the home. Only the desirability of involvement with nature is unquestioned, and this involvement is often limited to looking.

Thus, if our research support here seems sketchy and brief, it's because it is. Ritual in modern living very often seems not to exist as a spiritual expression--or if it does exist, it seems to be of not much value. It is obscured and undermined by a thousand-and-one details of post-industrial culture; thus its existence and its value are difficult subjects for research. This does not mean that it does not exist and that it does not have life-enriching value for the person who chooses to discover it. Ritual behavior channels offer a means to do this.

WORK PLACES:

Work places allow the individual to experience himself
as a creative force, and to experience a bond of real respon-
sibility for whatever his mind or body produces/creates. This
is something akin to the bonding experience of making a place
that we talked about in the section on Physical Control; yet
the act of making, producing, creating through one's own ef-
forts offers opportunities for bonding that rely on more than
just the understanding and realization of control.

There is also the sense of being responsible for the ex-
istence of something else--some part of the environment that
springs from the individual and then assumes an independent
existence. This kind of work--which results in the being of
new things that weren't there before the intervention of the
individual--is like giving birth to little pieces of the world.
It emphasizes the mutuality of the bond between the individ-
ual and his cosmos.
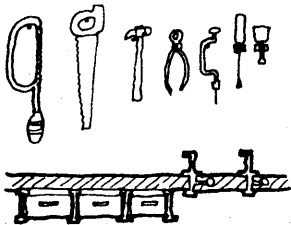
someone's little corner of the
world...

I haven't been able
to get the car in
for three years

Generic man has always been a creator
and a maker; it seems to be in his nature
to be so--it even seems to be his tour de
force to be so. The modern individual (if
he is lucky) finds some expression for this
drive in work away from home;
he also finds some expression
for it in the countless min-
imally engrossing or intense-
ly engrossing "hobbies" that
consume his interest. The
examples that we show here
involve making with tools
and materials, but there are
of course thousands of other
ways that the individual can
create and produce; he needs

to create and produce in some way, and he often requires space
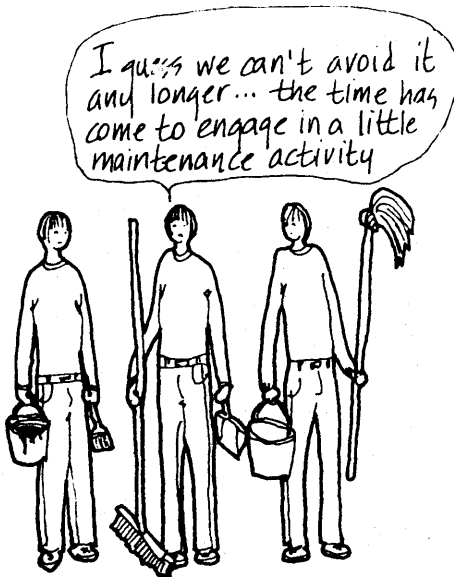in his home to do it in a way that corresponds to his own in-
dividual nature.

Yet this need is almost always overlooked in non-speci-
fic housing design; productive, creative "work"--work which
is not maintenance work-- is either relegated to some much-
less-than-ideal corner somewhere; or, because it is so import-
ant, it usurps a place that was intended for something else;
or else it is not accomodated at all.

The need to do work was not considered to be a basic
human need in the development of housing standards in this
country.[4] It was not considered to be a need on a par with
the more basic needs to eat, to sleep, to eliminate, and to
do some undefined something called "living": these needs were
the ones that determined the minimum space requirements that
we find everywhere in public housing. But the amount of space
that allows for only these needs is almost always so tight
that no other needs can be accomodated at all.

And clearly there are other human needs; the need to do
work is one of the most critical of these because of the bond-
ing opportunities it offers. It would be interesting (we sug-
gest not entirely tongue-in-cheek) to consider a re-evaluation
and re-structuring of housing standards based on human exis-
tential bonding needs. The real physical needs would unquest-
ionably not disappear from the list, but some of the space
qualities and attributes that make life "livable" might re-
ceive a long-overdue acknowledgement.

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[4] This piece of information comes from conversation with
Anne Vernez-Moudon.

149.

MAINTENANCE PLACES: PLACES THAT NEED YOU

I guess we can't avoid it any longer... the time has come to engage in a little maintenance activity

Despite all the talk about low-maintenance, we find people at Easter Hill Village saying things like:

"It feels more like a home...to keep up a lawn."[5]

"It's better for individuals to do it... you feel more at home when you have to take care of it yourself."[6]

and people at Levittown saying things like:

"We have a new house and want to keep it up nice; this is not work but enjoyment...Working in the yard is just like fishing, so relaxing."[7]

Maintenance is similar to control too; but because of its repetitive aspects, maintenance has ritual overtones as well. It allows the individual to understand not only his control over a place, but the simultaneous control of time over the place, his interaction with time to make the place, and the place's continued dependence on him for its care.

Without him, it would soon succumb to the effects of time and become "no man's" land; but with his care, it becomes a place that he is intimately tied to and responsible for. A maintained place is a place that the individual "makes," not in one fell swoop, but over and over through his caring effort.

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[5] Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.91

[6] Cooper, loc.cit.

[7] Herbert Gans, The Levittowners: Ways of Life and Politics in a New Suburban Community (N.Y., 1967), p.254. See also George Schermer Associates, More than Shelter: Social Needs in Low- and Moderate-Income Housing (Washington, D.C., 1968), Case History 1, for a description of a highly successful scattered site housing operation in which maintenance was required by the tenants--with seemingly very positive results.

Part of the objection to maintenance work which we hear about today may be because maintenance is so divorced from other living requirements; contemporary existence is fragmented in terms of the directions of the individual's activities and maintenance is only one among many--all of them dissociated from one another. The individual's time is so committed to other, more specialized activities that he in fact cannot undertake much maintenance activity. Heavy maintenance requirements, then, only frustrate him and emphasize a discontinuity between him and his place: he is unable to take advantage of the bonding opportunity that is offered. Maintenance requirements that are within his capabilities, however, offer the chance for a continually re-newed and solidified place-bond.

We cannot resist a reference to Teshigahara's beautiful movie, "Woman in the Dunes"(1960), about the Japanese coast dwellers who both lived to maintain their place of life, and maintained their place of life to live. Maintenance, a cyclical, never-ending task to carve out a place for themselves, was their meaning in life. In a way, it is everybody's meaning in life--it provides a continuing man-environment interplay by which man makes the environment his own.

EATING PLACES:

Eating is only one of several repetitive bodily processes. We choose it to discuss here because of its direct earth-dependence connotations, its spatial implications, its interpersonal implications, and its pronounced ritual overtones.

Eating is often done in a non-ritual way--gulping down a quick sandwich as you dash out the door with no time to make a bigger deal out of it--but eating also retains many of the celebratory aspects that were associated with it in a ritual past.

It accompanies many of the religious and semi-religious events that contemporary western man still celebrates: Christmas, passover, eucharist, birthdays, thanksgiving, even Easter with its jelly beans and eggs-- all have their special traditional foods; and eating them is a big part of the celebration. The undeniable spiritual associations of food are used to enhance the spirituality of these occasions.

Eating celebrates life; in the same ritual way that maintenance work was able to celebrate the continued dependence of the environment's places upon the individual, eating is able to celebrate the continued
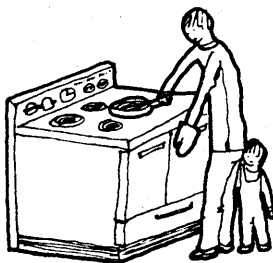
dependence of the individual upon the environment's products. The relationship that it represents is the most basic environmental relationship that involves the individual, because food is his most basic need. Without it, he dies; with it, he lives.

Eating also suggests a string of other relationships, connecting all the activities and events that finally bring the food and the individual together into a ritual process. This process includes getting food, bringing food to the place of preparation, preparing food, and, finally, eating food. Thus the scope of the ritual behavior channel surrounding food can be expanded to include all of these activities too: each part of this repetitive chain of events potentially can be done with loving consciousness for its deep ritual meaning; and if the entire chain is satisfying and fulfilling to the individual, the result is a powerful earth bond.

The two parts that happen in the house, however, preparation and eating, have very great implications for house space. The fact that eating is the one activity that unquestionably, whether subtly or overtly, retains ritual value in the usual household's activity patterns means that the spaces associated

153.

with preparing and eating food are overwhelmingly important. This importance derives from the ritual bonding power of the eating activity as much as from the mundane fact that preparing and eating food simply takes up a lot of time every day.

Convenience and efficiency are prized, of course, but the requirements for the spatial millieu within which eating and preparation occur are a lot more far reaching than mere modernity.[8] The problem with trying to analyse what these requirements are, however, is complicated because they are very much dependent on the individual's full conception of meaning relationships: he needs ritual behavior bonding channels that will provide support to the intricate network of bonds he has formed in all other ways.

Thus there is no once-and-for-all "good" kitchen-dining room that everyone will love; what is good for one individual depends on how he sees himself and his world. Henry Sanoff makes a commendable effort to tie preferences for eating arrangements to certain variations in individual/family lifestyle--this is one of the few attempts to make more of the variations in percentage preferences than a simplistic suggestion to the architect to go with the winners--that he will have a greater chance of pleasing more people if he opts for the arrangement that more of them want.[9]

Sanoff ascribes a "solidarity index" and a "leisure index" to families which describes the kinds of

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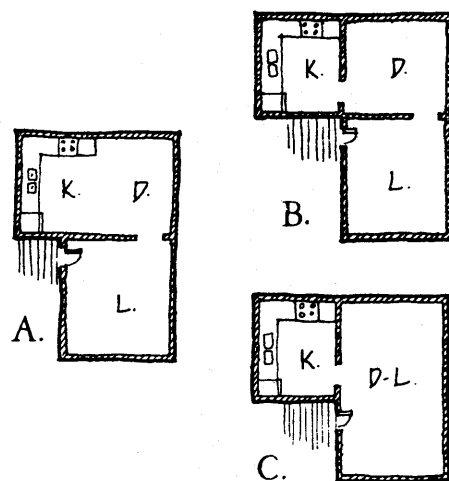
[8] Arthur D. Little, Consumer Preferences in Housing (Cambridge, Mass), p.31: "Several studies corroborate the fact that the design, convenience and modernity of kitchens--which are among the rooms used most intensively--are valued highly by consumers at all income levels."

[9] Henry Sanoff, Family Attitudes and Housing Preferences (North Carolina State Univ., 1973), passim

things they like to do and whether they do them together.
These findings are then related to the eating-living arrange-
ments the family prefers. Sanoff finds that families with
"high solidarity"--close families--want larger, separate kit-
chens, dining rooms and living rooms more than they want
mixed-use spaces. This may suggest that families who like
to do things together are more apt to exploit the ritual as-
pects of eating; i.e., to make eating an "event."

Cooper gives us another, not surprising clue about spatial
milieu in eating when she writes:

> "There is certainly a kind of embarassment experienced
> by many at eating in a semi-private space--such as a
> yard or balcony--while neighbors or passers-by look
> on. Eating, like sunbathing or napping, requires
> greater privacy."[10]

Eating can be a highly personal act--even when the indiv-
idual is not consciously aware of the spiritual overtones of
what he is doing, he cannot escape the subliminal feeling
that it is personal--something to be done with friends, to
enhance a bond of friendship, but not under the casual eye of
strangers or passers-by.

The last clue that we have comes from a comparative look
at a number of studies which briefly describe kitchens and din-
ing rooms, and whether residents are happy with them.[11] Gen-
erally, residents seem to be happier with these spaces when
they are large and/or flexibly defined, and less happy with

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[10] Cooper, op.cit., p.78

[11] Cooper, op.cit., p.62: most frequent complaint about
house interior is that the kitchen is too small; Andersson,
Studies of User Satisfaction in Three Developments: Summary
(unpub., Boston, 1975), pp.1-2,22: tries to establish the point
at which a kitchen stops being too small and becomes adequate;
John Zeisel and Mary Griffin, Charlesview Housing: A Diagnos-
tic Evaluation (Harvard Univ., 1975), p.97: larger units had
a semi-separation between kitchen and dining, which they liked;
smaller units had a walled-off kitchen too small to eat in,
and no dining area--which did not seem too satisfactory. These
residents ate in their living rooms.

them when they are small and/or rigidly defined. This is not
surprising either, because amount of space and flexible defi-
nition invite control; and control is essential if the indi-
vidual is to adapt the ritual behavior channel to his personal
bonding needs.

Smallness severely limits his opportunities for control
to that range of things that can be done in spatially tight
areas; while these things and a lot more can be done in a
large space. Rigidity also limits control--it does not allow
for variations in openness, closure and extension--whereas
flexibility implies that as much or as little space as is
needed can be incorporated into the activity space. This does
not mean that no definition is desirable, but that definition
which offers a variety of options for control is more desira-
ble than definition which offers no option for control.

NATURE PLACES:

"A primordial need of humans to relate to growing organisms in the non-human environment is fulfilled in part by a piece of the outdoors to do with as one pleases."[12]

Interacting with nature is a cross between productive-creative work and maintenance work, and additionally, has its own ritual implications. There is a very special cosmic relationship that is symbolized by the growing, dying, and growing again of green things, and that is the cyclical process of life. The individual can participate in this process symbolism by taking a role of responsibility in the growing of things himself.

The "primordial need" that people have to do this, and the delight they take in lavishing care on ornamental, flowering, non-food plants is really a result of the ritual value of this process relationship. The act of growing green and flowering plants offers a ritual behavior channel through which the individual can bond himself to the life process that includes him.[13]

When people grow things on the little pieces of ground outside their houses, they inevitably grow them around win-

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[12] Cooper, op.cit., p.96

[13] Cooper, op.cit., pp.78,91,96 et passim: people valued and took advantage of the opportunity to grow plants; Zeisel and Griffin, op.cit., pp.72-75: likewise. George Schermer Associates, op.cit., Case History One: "Grass, flowers and shrubbery were healthy and placed all around the buildings. The Authority has a three-year beautification program and buys flowers, rose bushes, and other items for resale to tenants. Gardening tools are furnished without charge." This was the best maintained, most attractive of 11 city case studies Schermer Associates conducted, suggesting that giving residents the opportunity to participate in growing was a very positive move.

dows, around doors, beside walkways, and around the bases of
their houses. In other words, they use the bonding value of
this ritual behavior channel to emphasize and elaborate the
bonding value of perceptual channels and movement channels,
and the symbol of their own rootedness, the house.

In part, this seems to suggest that the acknowledgement
of one bonding channel by another speaks to the need for coin-
cidence and clarity between the different layers of the mean-
ing network. It seems to suggest also that bonding channels
and points of connection are very important to people, and
so a ritual decoration of them is important too.

Solution for those who
have no piece of ground.
"More windows" are
important to this
ritual behavior
channel as well as
to the Perceptual
Channel. [14]

[14] Arthur D. Little, op.cit., p.14

DESIGN IMPLICATIONS

1. People _do_ need places to work, regardless of what the housing standards say. In large residential complexes, this need may be reasonably well accomodated in communally shared space. This arrangement has some very positive advantages, the most obvious being that it might be easier for several people to obtain equipment that they all need but none can afford individually. Space and equipment might also be used at different times of the day or week.

In a private dwelling, the need to work might require just a little extra space--related to quiet areas for quiet work, or isolated for noisy work, or right there where everything else happens, but just in a little bigger, more defined space. A more major solution might be the incorporation of an "undesignated" room into the traditional American house idea, for all the looms and pottery wheels and easels and brushes and typewriters and carpentry benches that are increasingly a part of the American family's baggage.

2. People need to do a little continuing work on their places to keep them in order. The designer probably doesn't need to do anything special to the house to make sure it _needs_ the work after a certain period of time--chances are it will, unless he decides to cast the house and the lawn both in concrete. A bigger concern is that the maintenance requirements that do crop up should not be absolutely beyond the capabilities of the inhabitant. The house should not fall down after three years, but if the exterior trim needs to be restained, the inhabitant might derive some real satisfaction from doing it.

3. The major design implications of eating/ritual behavior are space, definition and variety; because these are the things that provide options. People need to decide for themselves what ritual value there is to be gained from different

eating practices. Celebration is important; a place that is
"fancy" or can be fancied up is related to this need. Eating
with a lot of other people is important; a place that can hold
a lot of people is a prerequisite. Eating close to nature,
away from public exposure, is important; a private patio spot
might be created even in a very dense neighborhood.

4. People need to take a hand in what grows from the
earth. If a piece of actual ground is out of the question,
at least window boxes or a balcony for growing things is in
order--obviously, the exposure of such things is a design con-
cern. The last solution is growing things inside; the right
orientation and kinds of windows (or a skylight), and the
right inside definition might make a very suitable "plant place"
inside the house. Growing things under lights is an imposs-
ibly last-ditch effort, and should not be the only alternative
in any house--yet some people are almost compulsively involved
in this form of ritual behavior, and want plants throughout
their homes. This means that where interiors are very removed
from natural light sources and are likely to be dark (deep row
houses, e.g.) the potential for high artificial light levels
or directional lights should exist.

SEMIOLOGICAL PERCEPTUAL CHANNELS

Semiological perception means being able to formulate abstract meaning relationships that tie the sense-accessed world to a level of symbolism beyond the physical. The objects of physical perception (environmental contents that can be sensed) become semiological perceptual channels, because they are the intermediaries that lead to the next level of understanding. Thus access to physical perception provides preliminary access to semiological perception; and the degree of associative value that the perceived element has provides a secondary form of access.

Semiological perception is so related to physical perception that it may either greatly diminish or else support the feeling of positive good that physical perception can produce. Physical perception allows the individual to structure his surroundings into an environmental image; to recognize a hierarchical system of elements, places and connections. Semiological perception allows him to attach a value to the parts of this system and to the system as a whole; to give it a "good" or "bad" meaning. If physical perception is thorough, but semiological perception is negative, much of the positive bonding value of physical perception is lost. The individual may have an ultra-clear understanding of a place that is absolutely loathsome to him; in which case he will probably (unless his self-image is loathsome too) reject any personal psychological connection to it. Our first example here, at Easter Hill Village, demonstrates a mild instance of this.

ABSTRACT MEANINGS ATTACHED TO PLACE IMAGES:
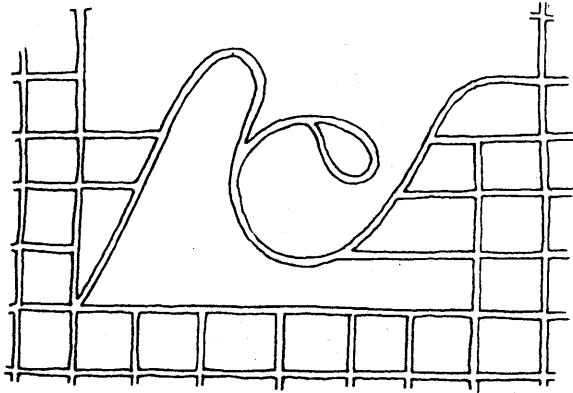
"...ironically, the designers succeeded so well in their objective of creating a neighborhood which contrasted markedly with the surrounding non-subsidized housing that its residents felt themselves labeled as being different and separate--something they did not want."[1]

The designers of Easter Hill Village were convinced of the positive value of physical perceptual bonding. They, of course, didn't use those terms in thinking about what they wanted the community to be like as a place, but they did deliberately set about making it "different," identifiable, a clearly special place that the residents could relate to strongly as their own.

The street patterns were planned as curving topological shapes unlike the grid in the surrounding areas; the houses were all alike, and all unlike the various types in the surrounding areas; and, finally, Easter Hill was a hill, in contrast to surrounding flatness. This last, obviously, the designers could do little to change--instead, they capitalized on it and made the most of its already existing "differentness."

The residents (and all their flatland neighbors) were, in fact, able to form a strong image of Easter Hill Village as a special place; but because it was a public housing project, the speciallness emphasized what were, for them, not very positive circumstances. The meaning that they perceived through their place image was of poverty, absence of choice, dependency, and of being grouped with other similarly unfortunate people. They would willingly have settled for a less powerful place image with more positive associations.

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[1] Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.126

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ABSTRACT MEANINGS ATTACHED TO PLACE IMAGES:

the image...
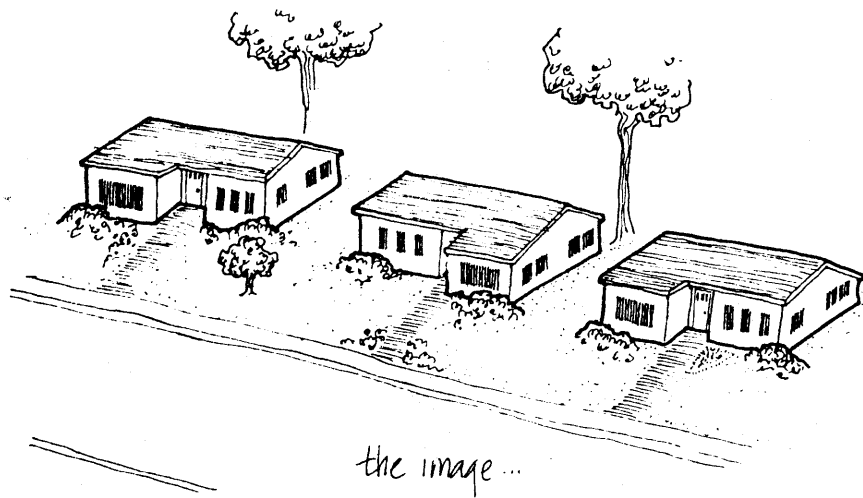
A member of Arthur D. Little's panel of middle-income home purchasers described what she was looking for in a neighborhood as "...homogenity; and also for a neighborhood of all ranch houses, with no split-levels or two-stories, because the street looks better if all the houses are the same type."[2]

This woman had a preconceived environmental image of the kind of place she wanted to live in; it included her house and all her neighbor's houses as well. No doubt it originated from her semiological associations--this kind of place sug-gested all kinds of other "good" meanings to her: prosperity, privacy, lack of conflict, shared values, aesthetic neatness, etc. She was looking for a place, essentially, that would allow her physical perception to reinforce her positive sem-iological perception; her "real" to coincide with her "ideal"-- the kind of place that would maximize the bonding value of both channels.

The people who moved to Levittown were seeking the same kind of identifiable and positive value-laden environment.[3] Levittown contrasted markedly with the surrounding farmlands (although it was so big that the contrast was imperceptible from within); yet since the values that it represented were positive ones for the residents, the overall feeling was ful-

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[2] Arthur D. Little, Consumer Preferences in Housing, (Cambridge, Mass., 1973), p.50

[3] Herbert Gans, The Levittowners: Ways of Life and Poli-tics in a new Suburban Community (N.Y., 1967), esp. pp.37-41

filling.

It is always the goal of the meaning network, and the positive bonding channels, to mesh the real with the ideal; a split between these two broad levels of understood meaning is an unbreachable psychological disconnection. Thus a home environment that is <u>not</u> like the place where the resident feels he <u>should</u> be at home will not invite him to bond himself to it--he will be rootless if he cannot find a real place that he can associate with his ideal values.

A. inward-directed Eastern house


B. outward-directed Western house
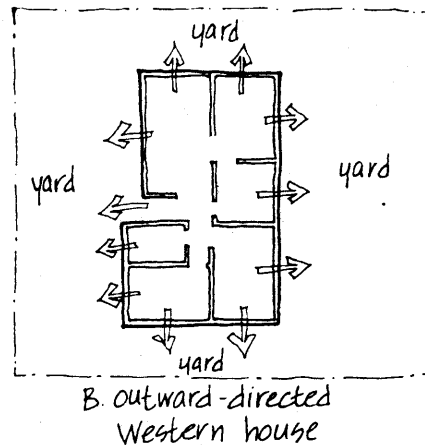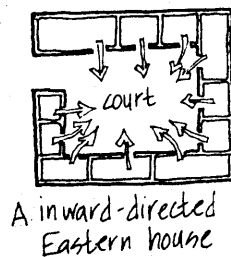
"...in model A, a person while living and working in it has his or her back turned towards the outer walls or so-to-speak to the outer world. He or she always faces the inner open space which is the center of the house. In model B, in a somewhat similar way, he is facing the outer world all the time."[4]

Pulir Garg suggests that house space, simply through its arrangement and orientation, can symbolize a pervasive cultural attitude; i.e., the house can be a semiological perceptual channel that bonds the person to (as an abstract meaning) the way his culture approaches things.

As an example, Garg considers the contrast between the East Indian cultural attitude and the Western cultural attitude, and between the traditional East Indian house and the typical Western house. The Indian person, he says, is encouraged by his culture to be introverted, to seek life fulfillment by turning within himself; his house is inward turning too. The Western person, on the other hand, is encouraged to seek life fulfillment in the world beyond himself, and his house reflects this outward direction.

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[4] Pulir K. Garg, House Structure: Its Impact on Personality Orientation and Cultural Cognitive Styles (unpub., MIT, Jan. 1962), n.p.

ABSTRACT MEANINGS ATTACHED TO HOUSES: LIFE STATION
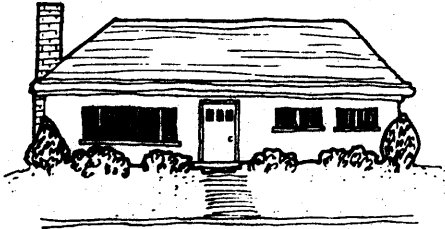

SFD. —the American
symbol of arrival

"Along with the acquisition
of a home and yard goes an elabor-
ation of the inside of the house
in such a way as not only to fur-
ther develop the idea of a pleas-
ant and cozy home, but also to add
new elements with emphasis on hav-
ing a nicely decorated living room
or family room, a home which more
closely approximates a standard of
all-American affluence...One of
the dominant themes of the modern
working class life style is that
of having arrived in the mainstream
of American life, of no longer be-
ing simply 'poor-but-honest' workers.
It is in the service of this goal
that we find these elaborations in
the meaning of the house and its
environs."[5]

Probably the most straightforward meaning that one under-
stands by looking at a house is the most likely relationship
of the inhabitants to the fabric of cultural life--what their
economic and sub-cultural affiliations are likely to be, and
what group values they subscribe to. People with mansions
and palaces can be presumed to have "arrived" alraedy; people
with tar-paper shacks have either not arrived or have dropped
out; people with neat little cottages may be on their final
plateaus; people with new, well-maintained ranch houses in
neighborhoods of the same may be upwardly mobile, etc.

What we see when we look at the house exists on one level
as physical form and on another level as abstract meaning:
our perception of the physical form allows us to "read" the
second level of semiological implications. The house, as a
semiological channel, allows bonding to this abstract level
of understanding to take place.

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[5] Lee Rainwater,"Fear and the House-as-Haven in the Lower
Class," Jour. AIP, XXXII, 1 (Jan. 1966), p.31

short-lived straw house

similarly short-lived stick house

durable brick house
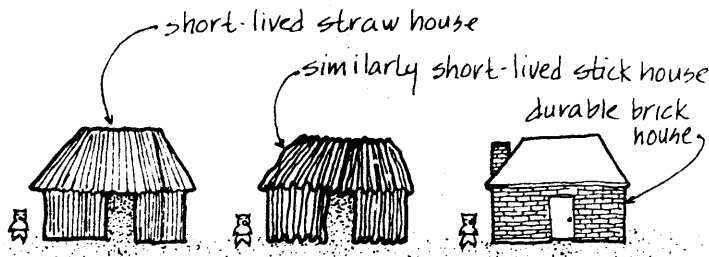
"...dwellings built of brick and stone mater- ials appear to be more highly valued than sim- ilar ones constructed with wood."[6]

It may seem superficially strange that masonry houses should be so valued--a stone or brick house may not perform the pragmatic house functions any better than a wood house; it may be more expensive and more difficult to construct, and the individual may very well not live in it long enough for the extra durability to balance the additional difficulty and expense. A wood house would probably last long enough in practical terms, because the individual cannot possibly live in any house for more than about 70-80 years--certainly not for the centuries he might expect a stone house to last.

But stone (and masonry in general) has semiological as- sociations that wood does not have; a stone house allows the individual to bond himself to a concept of permanency at the same time that he bonds himself to his house. It is the value of stone as a semiological bonding channel, and not as a con- struction material that performs in a demonstrably superior way, that makes it seem more valuable to people.

One of the things that the individual seeks to establish through the formation of a com- prehensive meaning network is his own connection to things that endure beyond his own time of existence. Since his connection to a home-place on the earth may be the strongest and most lasting

I want my house to last a thousand years

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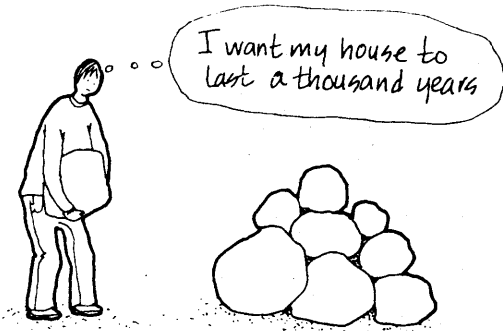
[6] Arthur D. Little, op.cit., p.6

connection that he is able to form, it is of especial import-
ance that this place, in itself, be enduring.

Stone seems to be the most enduring thing there is; there
is nothing older that we can find, and we have not been deeply
convinced that it will not last on and on forever. If our
house--that entity which is an extension of us through bond-
ing--is stone, then it seems as if something "of us" might
last on and on forever too.[7]

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[7] Carl Jung, Memories, Dreams and Reflections (N.Y.,
1963), pp.22,210 (and other works) suggests that the stone
is an archetypal symbol for the never-dying, permanent part
of man--his soul.

ABSTRACT MEANINGS ATTACHED TO HOUSES: SELF

> "The phenomenon of dreaming of the self as a house--
> that 'package' outside our own skin which encloses us
> and in which we feel most secure--is perhaps the first
> glimmering of the unconscious that the 'I' and the
> 'non-I' are indeed one and the same."[8]

Most of my readers will no doubt be familiar with Clare
Cooper's paper, "The House as Symbol of Self" (cited above),
and will already have some understanding of the bonding value
of self-associative house qualities. The idea of the house's
having semiological associations with the characteristics,
dreams, desires and values of the person who calls it home
is not a startling idea. It suggests what is probably the
most basic, most inclusive and most valuable of the semiolo-
gical perceptual channel's functions, that of allowing the
individual to see the level of meaning behind his house as
equivalent to the level of meaning behind himself.

When this is the case, when
the house expresses things that
the individual feels represent his
own meaning, then he is bonded not
only to the meaning expressed, but
again to the house. The meaning
itself becomes a third perceptual
channel when it is the person's
own meaning that is perceived,
and the bond becomes much more
than a simple bond of understood
meaning.

The other abstract house mean-
ings that we have described--cul-
tural life style, life station and
permanency--are all aspects of
self. They represent real or

individual's own house, meaning, bond 3, bond 2, bond 1
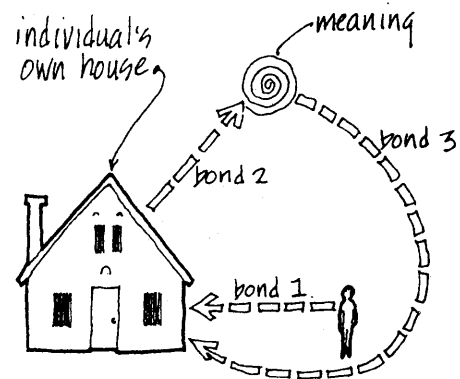
1. ability to see provides access to bond 1; physical perception

2. physical form of house provides access to bond 2; semiological perception

3. meaning perceived provides access to bond 3; house bond.

If the meaning perceived is not the individual's own meaning, bonding stops with bond 2.

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[8] Cooper, (Berkeley, 1971), p.43

wished-for personal circumstances that the individual needs
to find expressed in his environment. They are not, however,
the only real or wished-for personal circumstances which the
individual might find expressed in his house: these are in-
finite.

PERCEPTION OF ABSTRACT MEANING IN NATURE:
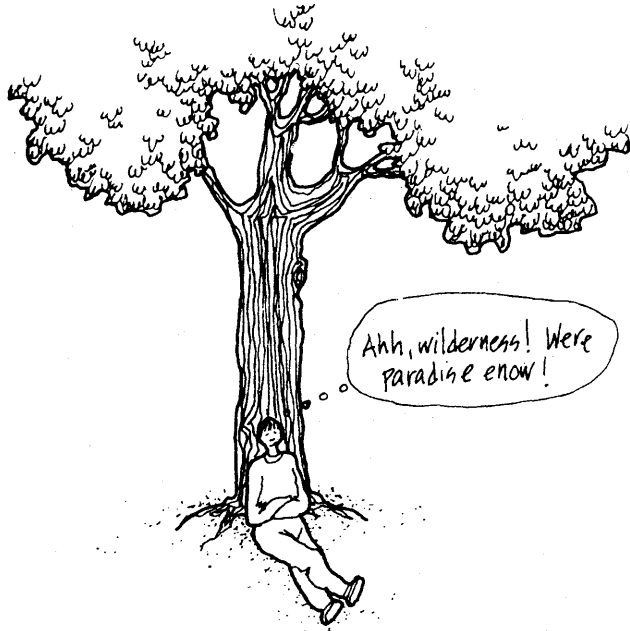
"...most Easter Hill residents felt it was important to see trees and grass in the neighborhood where they lived. It was not just that a neighborhood would be more attractive with plenty of trees and grass around, but that it would be depressing and seem run-down and monotonous without them. There were some who replied vehemently that trees were a 'part of life,' were 'good for people'..."9

Trees are "a part of life" and "good for people," quaint and simplistic as this sounds. Trees are physically rooted; they are the original symbol for our concept of man as "rooted." Trees condense into a year and make visible an analogy to the life-span of a person. Trees start from tiny, tiny seeds and grow into vast, spreading, branching wonders. Trees produce flowers, food, leaves. They themselves become homes for other living beings, and sometimes even for people.

Trees are an endless source of semiological meaning. We find them used as symbols for almost everything that spreads and produces: the tree of life, the family tree, the tree of knowledge, etc. The potential to see trees, then, is obviously a key to the potential for this tremendous semiological aware-ness.

Trees represent growing, evolving, dying, and growing again process; the same is true of other natural events: sun-rise and sunset, new moons and full moons, the passing of the seasons, the coming and going of birds, and all other natural

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9 Clare Cooper, Easter Hill Village: Some Social Impli-cations of Design (N.Y., 1975), p.139

comings and goings. The potential to see any of these offers
a semiological perceptual channel through which the individual
may understand the natural process that includes him.

Yet process is only one part of nature; the other part
is permanence: the individual needs to bond himself to both
parts, hence he needs to have perceptual contact with the per-
manent elements in nature too. These are rocks and stones,
and the earth itself.

We have already talked about the semiology associated
with rocks and stones, mentioning that the values of endurance
which stone represents are very appropriate values for the
house. The value of rocks and stone, however, is not limited
to the house. The same appreciation for permanence, unchang-
ingness, stability may be evoked wherever rocks and stones
are encountered in the environment.

At Easter Hill Village, natural rock formations were left
near the center of the site, and were just about the most
prized feature of the landscape.[10] At the second of the de-
velopments studied by Brandt Andersson, rocks and boulders
were imported to contribute to the "naturalness" of the land-
scape--an act that was also very much appreciated by the re-
sidents.[11] In many parts of this country (notably the West
Coast) rock gardens are the thing. Rock gardens, because they
juxtapose the changing and the unchanging, offer a double op-
portunity for semiological perception, and a doubly delightful
aesthetic experience.

Examples of perceptual contact with nature can go on and
on; it is appreciated by people, thought to be "good," even
thought to be necessary. The specifics of what is perceived
are not too important, but the kinds of meanings that under-
lie nature are important: physical perception of nature can

[10] Cooper, op.cit., p.108f.

[11] Brandt Andersson, Studies of User Satisfaction in Three
Developments: Analysis (unpub., Boston, 1975), p.2B

permit a semiological understanding of growing process, of
cyclical process, and of permanence; and the individual needs
to perceive parts of nature that relate to each of these.

ARTICULATION, DEFINITION AND MEANING

An idea that we have hinted at several times already is
that physical definition--the changing or varying of spatial
or mass qualities--invites meaning investiture. This is be-
cause, simply, every change in the physical environment pro-
vides a new object for physical perception, and thus a new
access point for semiological perception.

Naturally, some meanings are much less profound than o-
thers: window niches are not as seminal as trees--although
window niches have the potential to be very profound through
the exercise of control, e.g., the inhabitant may place relig-
ious icons there. This is the second point that is important
in relation to definition and semiological perception: the
meaning that the individual might perceive in physical defini-
tion is often the existence of another bonding channel. This
is particularly important for control, ritual behavior and
movement, where meanings that are ascribed to physically de-
fined places greatly enhance the opportunities for these bond-
ing activities to take place.

Definition can go overboard and present the individual
with an overwhelming, jumbled, disordered environment that
completely evades his understanding, but a great deal of hier-
archically ordered definition is possible before this point
is reached.

DESIGN IMPLICATIONS

1. People should have spaces and elements in their environments that <u>mean</u> something to them. One way that meaning can be present in an environment is through repetitive and/or frequently encountered types of spaces and elements that carry meanings with them, so that the meaning is already there when the individual becomes aware of his perception.

These things may be "archetypal"; i.e., they may suggest through their own qualities universal concepts, processes and dichotomies. Rocks, earth, trees and plants, sky, water and fire carry the most basic kind of positive semiological meaning, and the chance to perceive any of them in the home, or from the home, offers what is potentially a "good" place, purely for the semiological value.

Such things as topological values and geometric relationships also carry their own meanings--openness, closure, proximity, verticality, horizontality, similarity, non-similarity and shape are all space-making tools in the designer's bag that come already accompanied by semiological meanings. They can be used and varied to make an environment that offers a maximum of inherent meaning content; that has deep spaces, narrow spaces, high spaces, "soft" spaces, dark spaces, flat spaces, long views, closeness, roundness, edges, etc., etc. All of these things have topological and geometric properties; the individual needs environmental exposure to the full range.

2. Semiological meaning may also be present in an environment through special, unique spaces and elements that announce their own meanings. Monuments, religious and public buildings do this through over-emphasis--they are more massive or taller than other buildings. The same principle of over-emphasis can be used to make special inherent meanings apparent in the house. Front doors announce their meanings in this way; they are bigger and grander than back doors. Living rooms,

kitchens or master bedrooms, or other important house-spaces, may use the same principle to make it understood straightaway that they are significant, meaningful spaces.

3.People also need spaces and elements in their environments that offer <u>potential</u> meaning; that do not come equipped with a full complement of meanings that have already been determined by convention, culture or universal understanding, but that can acquire special experiential meaning through the meaningful encounters the individual has with them. An environment which has a lot of flexible definition, which allows itself to be "filled in" by personal actions and decisions, offers this opportunity. This means that the house should offer the individual a whole variety of places that are different in terms of size and spatial quality, that make it obvious <u>where</u> they are, but not exactly <u>what</u> they are.

4. There is probably no single space or element that fits decisively into one or the other of the three categories above. Even those things that have hardly any experiential or cultural meaning have at least some topological properties; and nothing is so crammed full of meaning content already that it can't be filled in a little more through the individual's experience with it.

Some things mean more at first perceptual experience than others do; the individual needs some of each in his environment. He needs, to the extent possible, a complete set of symbols that describe the make-up and organization of the larger world, and that offers him the chance to understand it in his own way.

SEMIOLOGICAL CONTROL CHANNELS

Semiological control implies control over the potential to invest the environment with meaning; this kind of control is closely related to physical control but is not identical to physical control. For example, if the individual has a piece of furniture and a space with four long walls, four corners and a center, he may place the piece of furniture against any of the walls, in any of the corners, in the center, or in various other positions related to the edges and center of his space--he has physical control over the placement of the furniture. But if there are no meanings that any of these possible placements suggest to him, he will have no reason for choosing one over the other--he will be lacking in semiological control.
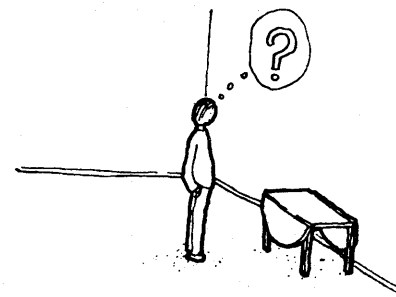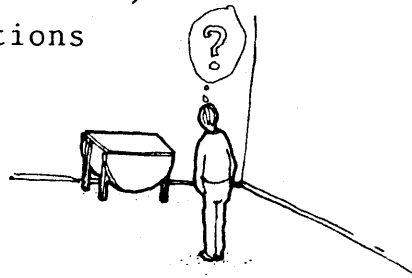
Semiological control channels are the opportunities that the environment offers for making value judgments and choices, based on the meanings that various environmental possibilities contain. They offer the individual, at root, control over the actual construction and manifestation of his meaning network; the potential to find his values and his environment coincident. The environment that offers the individual semiological control, then, is one that his personal set of associations can find "places" within, one that accepts his values as "meaning."

ABSTRACT CONTROL THROUGH HANGING ONTO THE FAMILIAR:
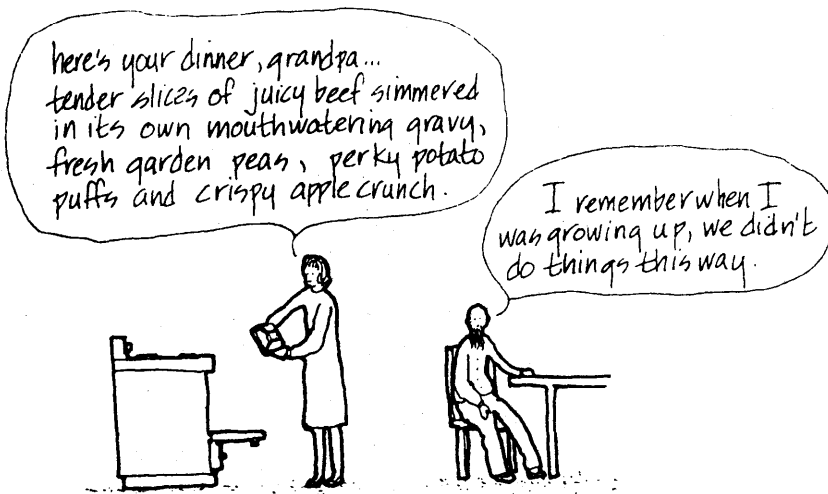
"An entire past comes to dwell in a new house.........the house we were born in has engraved within us the hierarchy of the various functions of inhabiting. We are the diagram of the functions of inhabiting that particular house, and all other houses are but variations on a fundamental theme."[1]

Maintaining contact with the familiar is one way to insure semiological control. Familiar elements in the environment carry semiological associations from the past; thus when one enters a new environment, one looks first to identify the familiar elements for assurance that the old meaning network has points of connection here too. The meanings that comprise one's world view seem not "out of place" when they can find new associations through familiarity; and once it is established that appropriate place-meaning associations do exist in a new place, the individual has attained semiological control. He is then able to begin the task of fitting the really new parts of the environment into his meaning network through their relationship to what is already understood.

When Arthur D. Little's researchers conducted a panel discussion among 6 middle-class home-buying families, 3 out of the 6 clearly described some form of familiarity that was important in their choice of new home.

Family number one "...finally chose the same suburban neighborhood that [the husband] had grown up in, purchasing a 30-year old house from an old friend and neighbor."[2]

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1 Gaston Bachelard, The Poetics of Space, trans Maria Jolas (Boston, 1969), pp. 5, 15

2 Arthur D. Little, Consumer Preferences in Housing (Cambridge, Mass, 1973), p.48

Family number three "...gladly chose to buy in the city
neighborhood where they had both grown up, within a few blocks
of park, zoo, bus-line, church and school."[3]

Family number five "...looked first for a neighborhood
that would provide easy access to her old teaching job for his
wife...decided to build a house like the one he had owned on
the coast, and found a lot in that neighborhood [close to his
wife's old job]."[4] (my emphasis)

These people were looking for ways that they could main-
tain their semiological control even through the process of
spatially uprooting themselves. In finding houses that al-
ready had associations with the past, they were making sure
that their meaning networks as well as their persons would
be housed.

[3] Arthur D. Little, op.cit., p. 53
[4] Arthur D. Little, op.cit., p.58

LOSS OF SEMIOLOGICAL CONTROL THROUGH LOSS OF THE FAMILIAR

Moving to a house that has few similarities to former houses--that requires a completely new life style and new activity patterns, and that has no referents to old values and environmental symbols--represents a severe kind of "culture shock." It means that the old meaning network no longer performs a valid bonding function for the individual because it is no longer connected to the environment.

And since it is only through time that one is able to build new associations with place and through intense experience that one is able to build powerful associations with place, the process of establishing semiological control over a totally new environment is lengthy and exhausting. There may even come a point in an individual's life when it can no longer be done, when he simply continues to feel himself an alien in an unfamiliar place.

Marc Fried documented the devastating effects of transplantation from the familiar to the unfamiliar when he studied the forcibly relocated residents of Boston's West End. The studies follow these people for approximately two years after the destruction of their old homes, and describe their psychological reactions as they try to reconstruct the meaning in their lives in new and very different places.[5]

Fried found that an overwhelming number of these people suffered from mild depression to intense grief and depression over this period of time. Those who suffered the most were those who had the most articulated and complete connection
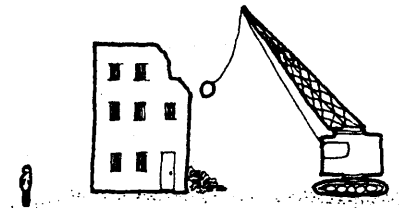
" how did you feel when you saw or heard that the building you had lived in was torn down?"

" it was like a piece being taken from me."

"I felt terrible."

"I used to stare at the spot where the building stood."

"I felt sick to my stomach."[6]

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[5] Marc Fried, "Grieving for a Lost Home," The Urban Condition, ed Duhl, (N.Y., 1963) ,pp.151-170

[6] Fried, ibid., p.152

to the old home and neighborhood--those with the greatest num-
ber of old positive associations which were "out of place" in
new homes. These included friendship patterns, activity pat-
terns, movement patterns, perceptual patterns: in fact, entire
life-style patterns. These uprooted people were unwilling
to give up the old associations because they were so positive
(perhaps they were unable to give them up because they were
so complete and interrelated), but they were unable to find
places in their new environments to receive the old associa-
tions as "meaning." As a result, they simply missed their
old places very much.

Fried says,

"Any severe loss may represent a disruption in one's
relationship to the past, to the present, and to the
future. Losses generally bring about fragmentation
of routines, of relationships, and of expectations,
and frequently imply an alteration in the world of
physically available objects and spatially oriented
action. It is a disruption in that sense of contin-
uity which is ordinarily taken-for-granted framework
for functioning in a universe which has temporal,
social, and spatial dimensions. From this point of
view, the loss of an important place represents a
change in a potentially significant component of the
experience of continuity."[7]

"A disruption in one's relationship to the past, the pre-
sent and the future" describes the loss of semiological control
precisely. It is the inability to find points of connection
between positively understood abstract meaning and environmental
surroundings, and the disruption of these relationships in
particular, that disorients the individual when he is con-
fronted by environmental strangeness.

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[7] Fried, op.cit., p.153

LOSS OF SEMIOLOGICAL CONTROL THROUGH LOSS OF THE FAMILIAR:
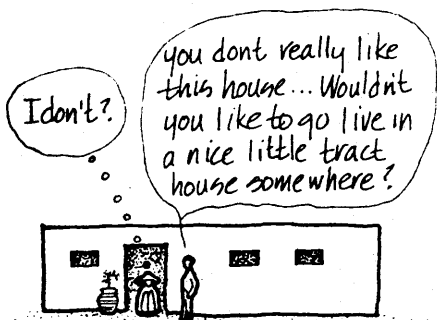
"The Zacapu workers moved from rented
housing of widely varying quality to
a tract of modern single family dwell-
ings. The new houses were of three
types, differing only in lot size and
number of bedrooms. All had running
water, electrical outlets in all rooms,
a separate kitchen, bathroom with WC
and shower, and a water heater. The
previous houses were mainly adobe or
plastered brick buildings with common
walls and no setback from the street.
The rooms connected with a central
patio rather than with each other.
Many facilities found in the new houses
were absent in the old. In general,
the workers moved from 'typical' high
density Mexican urban housing to a mod-
ern tract with many of the character-
istics of a rather low quality develop-
ment in the suburban U.S."[8]

The above quote was taken from a study done by Leland
Burns in which he attempted to discover a link between "im-
proved" worker housing and increased worker productivity/re-
duced absences from work. The results of the study were very
dramatic, to say the least, but they were not what Burns had
hoped to find. Instead, "The Zacapu study found that during
the first year after rehousing mean absences attributed to
illness rose 105 percent among test group workers."[9]

Burns attributed these results to the possibility that
workers were so enamored with their new houses that they
stayed home to plant rose bushes, build patios, and the like.[10]
The results may be interpreted in a very different way, how-
ever, if one considers the significant loss of semiological
control that these people experienced. The description that
Burns gives aboves is indicative of the extreme spatial diff-

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[8] Burns, Housing: Symbol and Shelter (Los Angeles, Feb.
1970), p. 86
[9] Burns, op.cit., p.143
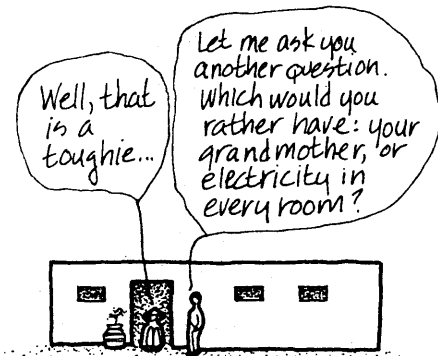[10] Burns, op.cit., p. 143

erences between the old and the new houses, and the lack of associative qualities that they might have had in common. The old was a traditional dwelling, rich in cultural and life style meanings; the new was a low-quality transplant from another culture which provided no referents at all to its new inhabitants.

Moreover, Burns says that "...in some respects the new housing was actually qualitatively inferior to the old. Thirty-seven percent of the interviewed sample of test group families experienced a decrease in the amount of interior space upon relocation into new housing."[11]

The kind of physical control that quantitative space allows has already been described; and the close relationship between physical control and semiological control suggests that when the individual has more space to do with as he wishes, he also has more options to invest this space with meaning as he wishes.

Burns offers another bit of information, the clincher, as it were, which indicates even more convincingly that the new housing was not an "improvement" over the old, as it was presumed to be. He says,

"Before rehousing, the typical household consisted of one or more elder generations living with a primary family and their children. Older family members were available to care for the numerous preschool offspring when both parents were employed. With relocation to the project and undoubling, these important services were not as readily available."[12]

This, of course, added to the 105% increase in absences; but, more than that, it suggests that even the life style

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[11] Burns, op.cit., p.143

[12] Burns, op.cit., p.23

structure that these people had practiced previously could
not be contained within their new dwellings. These little
tract houses were adamantly resistant to receiving any of this
old "meaning." Instead they imposed their own meaning--which
was negative because it was in conflict with already existing
meaning networks. No semiological control options existed
which would have allowed the association of the already exist-
ing meaning networks with new environmental conditions.

This picture becomes even more distressing with the infor-
mation that the family was under constant pressure to keep
its income low or be evicted.[13] This practice is the fairly
usual one in subsidized housing all over the United States--
but it is a blatantly inhuman practice. It encourages neither
physical control nor semiological control; it encourages the
resident instead to resist his own natural urges to form strong
and positive place associations, and to participate and inter-
act with his environmental place. He then becomes the proverb-
ial man who is an island, who seeks isolation in order to a-
void the possible loss of something dear.

In the case of Burns' study, it also discouraged product-
ivity, because too much productivity seemed to lead directly
to further disruption.

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[13] Burns, op.cit., p.23

OWNERSHIP: THE CONCEPTUALIZATION OF PHYSICAL CLAIM

"Although government tax policy favors the owner, by no means does this fully account for the nation's strong preference to own rather than rent. Beyond the fact that real estate is generally an excellent investment in the U.S. and an important hedge against inflation, ownership for many is an important personal expression of control over, and active participation in shaping one's immediate living environment. Such participation ranges from "owner-building"...which accounts for nearly 20% of all single family housing starts in the U.S. annually, to tenant management and control programs for public housing."14

Ownership is a form of semiological control because ownership is a concept; owning a house is not the same as painting a house, opening and closing its windows, mowing its lawn. It is symbolic rather than physical.

It is a very powerful and primary form of semiological control, however, because it allows other forms of semiological control (e.g., the option to maintain continuity of place-relationship, the option to make value and life-style choices) and encourages or allows more radical forms of physical control (e.g., building, wall-papering the whole inside in op art).15 Since it provides access to this great variety of other ways of bonding through control, it is the object of much aspiration here and in other countries--people want, if they are able, to buy a house; and this is not just because Ameri-

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14 Arthur D. Little, op.cit., p.7

15 Arthur D. Little, ibid., p.25, and Henry Sanoff, Integrating User Needs in Environmental Design (North Carolina State Univ., Jan. 1973), p.176, claim a correlation between maintenance of continuity and ownership, saying that those who purchase homes exhibit lower mobility. Sanoff, ibid., p.183, remarks on the correlation between physical control and ownership, saying that owners occupy better dwellings, largely because they want to take the time and trouble to make them better.

cans are such acquisitive people. It is also because owner-
ship is the foremost symbol of the place-bond that is solidi-
fied through all other bonding channels.

DESIGN IMPLICATIONS

1. People develop very complex sets of associations and meaning relationships over the years; they need to find a strong fit between their environmental surroundings and these already developed understandings of what is good and meaning-ful. New environments that suggest to the individual that the values he holds are not really valuable or important, or that the activities and behavior he finds satisfying cannot be accomodated, or that the life-style he finds fulfilling will have to be given up, are bound to be felt as lacking in themselves.

The designer needs to consider the habits and associa-tions that people are likely to bring with them as he creates environments for these people to live in--because their habits and associations need to be "at home" too. This is easier said than done, of course--the designer may know very little about these people that is helpful or suggestive.

If he does know who they are in a general way, he may find references to their familiar or idiomatic environmental features a reasonable solution--similarities in space sizes and arrangements, similarities in functional elements, simil-arities in spatial emphasis. "Kitchen people" will probably not be happy in a tunnel-like, one-person efficiency kitchen; door-step socializers will not be happy where their front door areas can no longer perform a social function; extended families will not be happy where half of them have to go live somewhere else. These people should be able to continue practices which have been "good" in the past.

If the designer does not know anything about the people (which would be a very extreme case in reality), then his best course would seem to be to maximize the opportunities for physical control and semiological perception. The same gener-al principles that worked for these two bonding channels are

true here too; space size, spatial variety and flexibility
are all important.

People can find better place-fits for all the stuff they
bring with them if they have a variety of environmental options
or can make their own options for where to put each separate
piece. This goes for ideas and associations as much as it
goes for things. If there are places in a new environment
that bear some similarity to those in an old environment (and
chances are there will be if the new environment has a lot of
different kinds of places), then the old environment's posi-
tive associations can find new homes there; they can be brought
right along with the individual.

2. People should be able to change, enlarge, reduce, re-
arrange, or annex onto their homes. This is because they are
constantly assimilating new meanings and changing, enlarging
and rearranging their own meaning networks, and where there
might have been an environment-meaning correspondence yester-
day, there might not be today. The environment should have
the capacity to develop along with the individual's understand-
ing of its meaning.

Ownership is one part of this; the designer probably can't
do much about it. Flexibility is another part that he can do
something about--he can make sure that things can be done in
different ways within the environment he creates, or he can
even make provision for that environment to be changed.

INTERPERSONAL BONDING CHANNELS

INTERPERSONAL BONDING CHANNELS

Interpersonal bonding, since it is essentially concerned with ties and attachments between people, has only indirect implications for the structural bonds that form between individuals and their homes. Yet since psychological connection to other people is just as important and consuming a human preoccupation as is psychological connection to space, even indirect influences from it can be very powerful and far-reaching. The whole meaning network is intricately inter-related, and structural and interpersonal bonds are the two broad external connecting forces that tie it together as a whole; hence it is not surprising to find that they are inter-influential as well.

Structural bonds that tie the individual to his house may form as a by-product of the need to form interpersonal bonds, since this need may generate use of the structural bonding channels: for example, an individual may use movement channels because he wishes to visit a friend, and as a result he understands his house in its relationship to his friend's house; or he may use physical control channels because he wishes to visually communicate something to others, and as a result he understands his house as an entity that can be expressive of himself.

Or the positive value of interpersonal bonding may itself be the meaning that is attributed through the semiological control channel or perceived through the semiological perceptual channel: a person may feel good about his home because it facilitates interpersonal bonding or because it allows him to structure his interpersonal relationships as he wishes; these, then, become the "good" values that are associated with it.

This study is concerned with interpersonal bonding as it influences the individual's understanding of his house-place; this happens only through its relationship to one or more of the structural bonding channels we have already described.
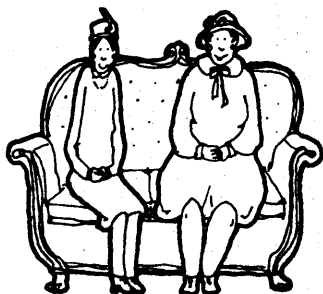
FAMILY BONDING:

a family portrait...

a family portrait...

a family portrait...

BLESS OUR HAPPY COMMUNE
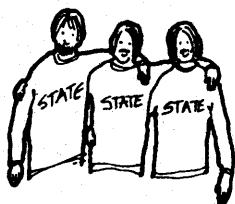
a family portrait...

The "family" refers to the people the individual shares his home with-- whether they are blood-kin or no blood-kin, these are the people who see him closely, intimately, through the phases and moods of his days and years. The bonds which the individual forms with these people are probably the strongest and most complex of all the interpersonal bonds he ever forms; this simply because the spatial closeness, frequency and temporal longevity of the home-sharing relationship allows him to be experienced as multi-faceted, and allows him to experience others as multi-faceted. His extra-family relationships generally hinge on some non-personal specific--job, school, shared neighborhood, special interest--hence his role in these relationships is often singular. But his family relationships hinge on just _living_ together; and here he is a whole person.

Usually the word "family" implies the standard nuclear family, with two parents who are defined as "provider" and "homemaker," and some children who are defined as "children." This composition and these role definitions comprise only one of a myriad of ways that individuals can live together and can become a family.

The family unit acts as a dou-

ble symbol for the individual. In much the same way as the
house itself mediates between the person and his cosmic con-
cept, being at once microcosm and macrocosm, the family is
simultaneously a microcosmic human family and an extension of
the individual himself. His relationships with other family
members provide him with models for conceptualizing his relat-
ionships with all human beings.

   At the same time, the family unit offers him retreat and
protection from the world of other people, "outsiders"--when
he withdraws into the "privacy" of his house, he withdraws,
not into himself, but into the security of his family struct-
ure. It is rarely necessary for him to withdraw farther than
to the interior of his house--into his room or little corner,
away from even his family members--in order to be himself
fully. This he can do within the intimate and intricate
structure of his relationships with this select group of peo-
ple.

   The interior of the house, then, contains the space that
is most important in allowing positive family bonding to take
place. This interior space is also the space that receives
the positive bonding side-effects of family interpersonal bond-
ing: it is the space that the individual needs to control, to
use, to invest with meaning as it offers the setting for his
closest interpersonal relationships.

INTERIOR SPACE AS THE FAMILY BONDING MILIEU:

home at last! Oh, what sweet heaven it is to step through that door and close it behind me!

"...poorer segments of society tend to perceive it [the house] as a shell or womb to withdraw into when feeling threatened by the human and physical environment outside. This sense of the-house-as-haven was very much present in Easter Hill..."[1]

The house can actually perform this "retreat" function for all segments of society; it is a conceptual castle or fortress that protects the inviolate rights and shelters the most intimate relationships of its inhabitant--its inside space is _his_ space, shared only with those few who are his family. It needs to be protected not only from "outsiders" walking into it, but also from their seeing into it, and even from their noises entering it unbidden.[2]

It is a sanctuary _because_ it shelters and contains the most discriminating levels of bonding activity--neither the individual's place-bonds nor his interpersonal bonds are stronger or more articulated elsewhere. The inside house space is the focus of all the most immediate bonding channels.

Cooper comments that "...it seems clear that people in all forms of housing are far more concerned about the inside

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[1] Clare Cooper, _Easter Hill Village: Some Social Implications of Design_ (N.Y., 1975), p.78. See also Lee Rainwater, "Fear and the House-as-Haven in the Lower Class," _Jour. AIP_, XXXII, 1 (Jan. 1966), pp.23-31, for an earlier discussion of this concept.

[2] Cooper, ibid., pp. 73,78; George Schermer Associates, _More Than Shelter: Social Needs in Low-and Moderate-Income Housing_ (Washington D.C., 1968), case study 11, p.197; John Zeisel and Mary Griffin, _Charlesview Housing: A Diagnostic Evaluation_ (Harvard Univ., 1975), pp.39-42; Brandt Andersson, _Studies of User Satisfaction in Three Developments_ (unpub. Boston, 1975), p.1C; for descriptions of situations where unit privacy either existed and was valued, or was invaded and was a source of resident dismay.

of their house and the amount of space they have for various family activities, than they are with the appearance of the house, either on the inside or on the outside...a question which asked whether people thought the inside or the outside of the house was more important to them resulted in two-thirds opting for the inside, because 'we <u>live</u> inside! '"[3]

People perceive themselves as "living" inside their houses because it is here that they are most strongly connected <u>to</u> life--its setting and its other livers. Actually, people "live" everywhere they go, but when "living" becomes a synonym for "being bonded," then inside the house becomes the place where living originates.

Rossi's findings that the amount of inside space was the most important consideration in a choice of new house; Andersson and Cooper's findings that privacy <u>between</u> dwellings was much more important than privacy within dwellings; Cooper's noting that the entire sum of money allotted for modernization at Easter Hill was spent on the unit interiors--except for that spent to enclose the back yards and bring them more "inside": all these instances attest to the preeminent bonding value of the inside of the dwelling unit.[4]

The family who "lives" inside needs to refine, control and articulate this space to facilitate the internal structure of its own relationships; it needs also to protect this space against invasion or intrusion by non-family to clearly define the special nature of family bonding.

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[3] Cooper, op.cit., p.68

[4] Peter Rossi, <u>Why Families Move</u> (Glencoe, Ill., 1955), pp.7-9,153 et passim; Andersson, loc.cit.; Cooper, op.cit., p. 73,204.

FAMILY INTERACTION/CONFLICT AVOIDANCE/STRUCTURING BONDING CHANNELS

you wash and
I'll dry...

yuk!
superyuk!

focus for
interaction

Interaction channels are
the bonding channels that allow
individual family members to
form direct ties with one an-
other by doing things together,
by communicating with one an-
other, or simply by being to-
gether. Usually they involve
some focus that draws the indiv-
iduals together around it for
a common reason or goal.

Conflict avoidance channels are in-
tegrally related to the success of inter-
action channels; they are usually some
particular spatial feature that allows
interactive bonding to be positive in-
stead of negative. They keep people out
of each other's way, offer alternatives
to fighting over the same space for diff-
erent uses, remove conflicting uses from
proximate spaces--loud from quiet, public
from private, rambunctious from precise,
etc.

MOM! Timmy just
ran into me on his
tricycle when I was
trying to do a very
careful chemistry
experiment!

oops...

this kind of interaction does not
make the participants feel
closely and positively bonded to
one another.

The use of interaction channels and conflict avoidance
channels acts as an access, or "raw material," for structuring
channels. These channels are rather like semiological percept-
ual and control channels, in that they allow the individual
to develop the relationships that come about through the other
two channels into a meaningful overall pattern of personal
roles that fits his own concept of the "good" family structure.

They usually exist as spatial options, inviting a choice about the way in which particular bonding incidents occur, and allowing the individual to invest separate bonding incidents with the abstract meaning that relates them to the generalized way the family as a whole is tied together.

These three kinds of bonding channels are treated together because they are really inseparable in practice. Interaction channels are as likely to be destructive as constructive without the existence of effective conflict avoidance channels; and structuring channels cannot be used at all unless bonding comes about through a full complement of interaction and conflict avoidance channels.

HOUSE-PLACES AS BONDING FOCII:

A particular place in a house may become a bonding focus when there is something about it that makes several people want to spend time there, and which invites them to spend time together there. Every place in the house is not like this, of course. Some places are one-person places that hold little attraction for other family members and may even be off-limits to them.
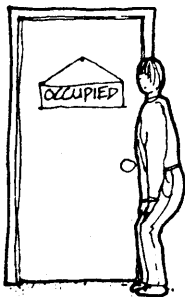
Some places are used by different people at different times, but not together.

Some places are able to accomodate the whole family at once, and are accessible to the whole family, but nobody goes there anyway--there is nothing about the place that attracts a number of users at any time.
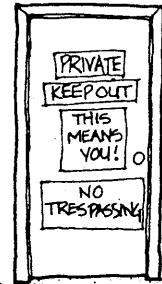
A place which does draw people together so that they can interact must have an attraction; and this may be something as simple as the fact that another person they want to be with is there. The kitchen, for example, is very attractive to little kids because their mother (homemaking parent) is there so much of the time. It becomes the stage for a lot of their interaction with her and a focal place for the interactive bonding that results from just being together.
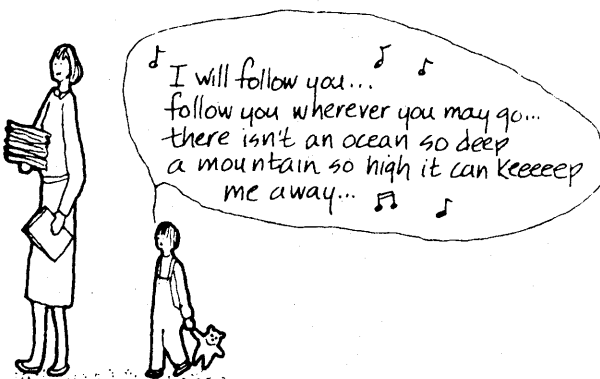
Or a younger child might find his older sibling's room very attractive because it is the place of a special, adored and admired person who does interesting grown-up things. The two

of them might interact a lot in the older child's room and hardly at all in the younger child's room, because it does not have the same attraction.

The attraction of a place might also be related to some activity that occurs only there--so that the attraction of the activity becomes inseparable from the attraction of the place. If the activity is one that family members need or want to do, and if they choose, for one reason or another--convention, convenience, or ritual value--to do it together, then the place itself becomes an interpersonal bonding focus. Eating readily comes to mind as an activity that makes the kitchen, dining room or breakfast nook focal in this way.

soup's on.

Oh, boy ... my favorite time of day! I just love sitting around the dining room table interacting with my family, and incidentally, stuffing my face.

Bathing together might be another, although less common, place-related activity that turns the family bath-room into a focal bonding place.
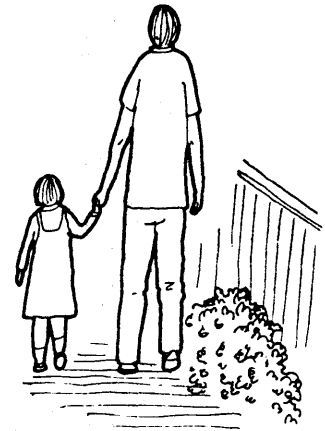
Lastly, the attraction of a place may be the opportunity for non-human structural bonding through the presence of one or more other bonding channels:

a window seat in a view window;

a nice place to take a walk together;

opportunities for physical perception make a place attractive.

opportunities for movement make a place attractive.

the chance to be closer to nature on the patio or in the back yard (or maybe in the greenhouse, or in a sunny room made lovely with hanging plants).

I love to come in here in the morning...

opportunities for semiological perception make a place more attractive

The presence of these kinds of bonding channels allows the individual to make an independent assessment of a place as a "nice" place, a place with "good" meaning. It stands to reason that if a place has an abundance of structural bonding attributes and thus already has a special positive meaning for an individual, it will be the kind of place where he will want to spend time with others, because it is the kind of place he wants to be in himself.

An attraction for a number of persons--for whatever reason--is the first quality which a place must have in order for it to become a focus for family bonding. The second condition for its success must be the absence of conflict between the activities or intentions of the persons who come together there.

Children who hang around in the kitchen may interact positively with their mother as long as they don't knock dishes on the floor or strew little toy cars around for her to trip on when she is carrying hot soup. Little children may interact positively in their big brother or sister's room as long as they don't invade privacy or meddle in precious things and mess them up or break them.

Families may interact positively while eating together if their eating space is big enough and comfortable enough, and if there are no frustrations inherent in the routine for preparation and serving. People may interact positively in the "nicest," most spatially attractive house-places if these

places are available for general family bonding use--if the window seat and the view may be enjoyed without disturbing someone's sleep or work; if all the nice plants aren't hung in the laundry room where there's no place to sit.

In other words, if an attractive place is to be used as a <u>positive</u> interaction focus, persons who come there :
1. must not violate other people's prior rights to use the place or prior reasons for being there;
2. must not be forced to continually struggle against inherent limitations in the place's usability; and
3. must find a correspondence between the attraction of the place and its accessibility/suitability to interactive use.

CONFLICT AVOIDANCE MEASURES:

when people congregate in a space because they want to be with another person who has a use-claim to the space, a conflict may arise between the "visitors" and the first-person's use :

I'm painting a line on the floor for you guys to stay on the other side of ...

a slight definition of the space into use space and "visiting" space may mediate the conflict ...
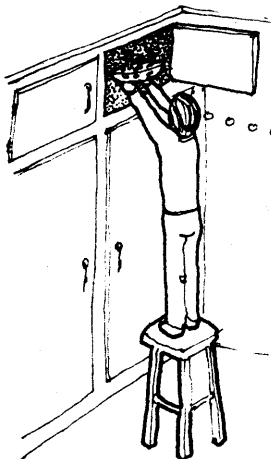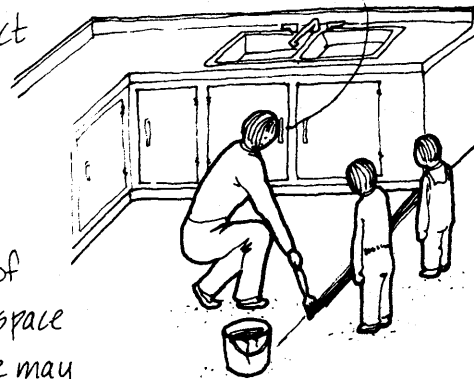
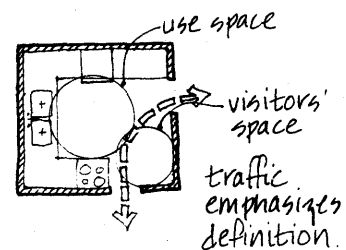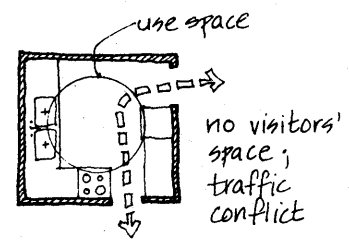there ... now at least that's safe when the little monster comes visiting!

... more stringent measures may mean the provision for real security.

202.

A designer may consider which persons are likely to "magnetize" which spaces, and take appropriate steps to protect that person's space-rights:

use space

no visitors' space; traffic conflict

The kitchen is magnetic anyway, because of its powerful ritual behavior, semiological perceptual, and s. and p. control aspects. It is also a place where a focal person has to get a lot of work done, whether or not several other people are congregating there...

use space

visitors' space

traffic emphasizes definition.

I'm sorry, but it's your turn to stand up tonight.

... if a space is big enough and flexible enough to let people interact as they want to, they won't encounter the conflict of having it dictate their mode of interaction.

Doubling up: the presence of structural bonding channels (chances to see out, go out, be with nature, exercise control, commune with symbolic orders, etc.) in the places where people will be together any how avoids the conflict of wanting to be some place other than where you are...

your bid.

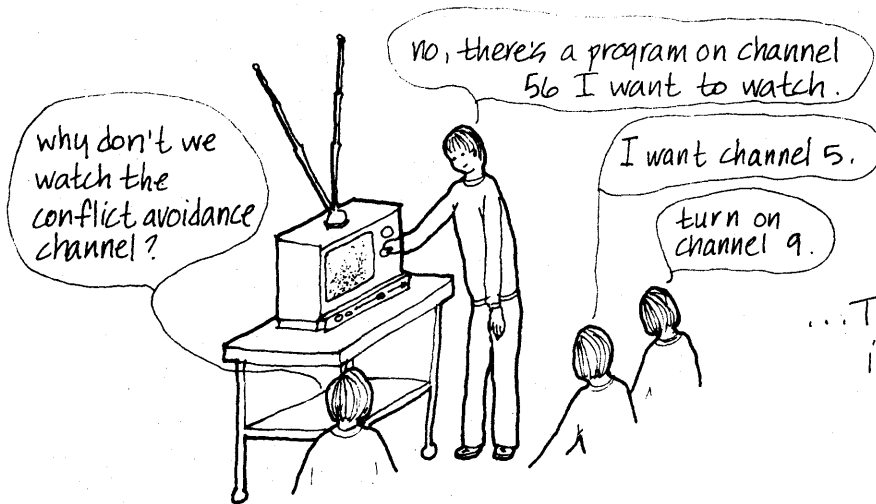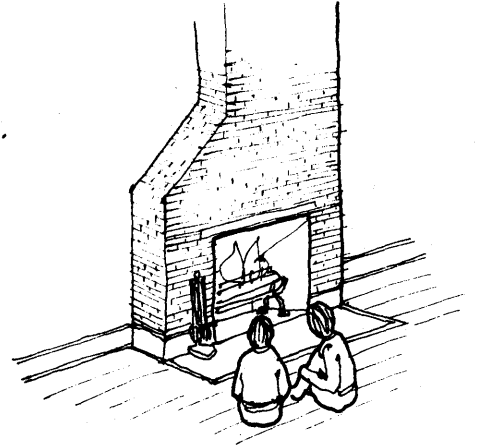It's nice to sit here and watch the squirrels and birds and stuff...

203.
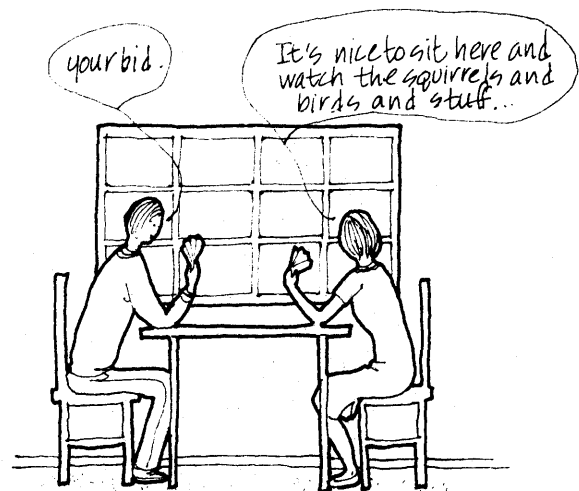
Elements as the place-attraction:

Fireplaces share an origin with kitchens - fireplaces
and kitchens used to be one and the same, with
abstract associations to food and life-maintenance.
Much of the interactive bonding power of kitchens
still revolves around this semiological value.
Fireplaces still retain the semiological value,
too, although they no longer retain the function;
They still retain the interactive bonding power
too that probably began when they were focal
as "food places." Fireplaces now suggest food
indirectly, and warmth and transience directly; and these associations bring
people together around them.
. . .

why don't we
watch the
conflict avoidance
channel?

no, there's a program on channel
56 I want to watch.

I want channel 5.

turn on
channel 9.

...The contemporary
interaction focus

Hey, Dad! Play
"Pinball Wizard"

music acts as a focus too, especially
when family members enjoy producing
it. Music places in the home and Art
places in the home are attractive for their
semiological perceptual value, and so offer
potential interaction channels as well.

204.
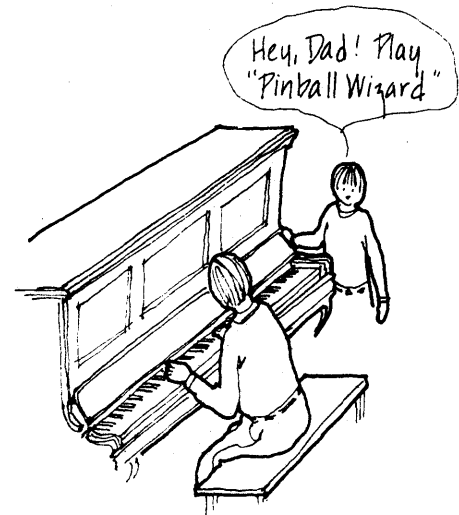
There are, of course, thousands and thousands of other spaces, elements and activities that individuals in a family group around and bond themselves to each other through: playing games together, reading aloud, studying together, doing hobbies together, working together--the list is obviously infinite, and what one family doesn't use as an interaction focus, another family may.

Some of these things are strictly space-related; i.e., there is generally a space where they almost always are located (fireplaces, for example, are permanently fixed, and kitchens are usually where food is prepared). Others can take place in a variety of spaces, and make much less critical demands on space characteristics because they are themselves moveable focii.

Nevertheless, the fact remains that no interaction bonding focus can exist that is not located in some space at the time it is being used. For this reason, it is important for the house to contain simply a flexible variety of spaces-- big spaces, small spaces, open and closed spaces, central and removed spaces, and spaces related to all of the structural bonding channels--where the moveable focii around which people might want to interact can take appropriate place.

The availability of such a variety of undesignated, but not undefined, use-spaces is in itself a conflict-avoidance channel, because it provides a number of options which may be used to avoid the conflict of inappropriate space or space-relationships.

FAMILY STRUCTURING CHANNELS:

The relationships that a particular family forms through its special use of interaction and conflict avoidance channels describes its family structure. Whether all bonds emanate from certain people and attach other people individually, or whether bonds emanate with equal strength from everybody; or whether there are strong and distinct sub-groups within the family unit; and also whether the family is a set of loosely tied individuals or a strongly tied unit--these things depend on how it makes use of bond-forming potential. This in turn depends on the collective image it has of "good" family structure.

A variety of spaces, then, offers the opportunity for structuring choices too: it provides the range of options that the family needs to accomodate its particular sub-group and full group needs.
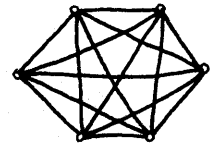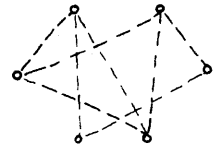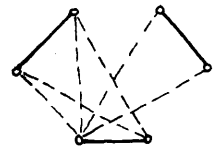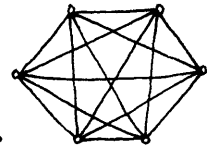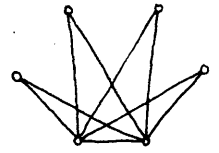
DESIGN IMPLICATIONS

1. Houses should allow the family to be alone, together, inside. The family, as a very special interpersonal unit, needs a degree of privacy and insured separation from other people who are not part of its bonding structure. This means, on the extreme side, that it probably needs some real security measures to make sure that outside people don't come walking or creeping or sneaking in. Windows and doors, and even local house orientations (corner lots, isolation from neighbors) that don't seem to provide this very basic security often make people very uncomfortable.

2. Beyond this, the security of the house is served by the chance for the inhabitants to see out and take note of who is approaching or passing by; but it is not served by the chance for those approaching or passing by to look in and see the inhabitants watching them. The house needs privacy from visual intrusion, but this should not have to depend on closing off all the visual access points--keeping all the shades drawn 24 hours a day. It might be accomplished instead by orientation of windows or by critically placed screening devices on the outside.

3. The security of the house also demands two-way sound privacy: other people should not be able to hear all those bitter arguments and tender intimacies that are meant only for family ears. Neither should the family be subjected to random bits of other people's noises--these are not appropriate to the context of intimate understanding that exists within the family.

4. The family needs to control the use and the appearance of the dwelling; the house thus needs to have the kind of varied-sized, flexibly defined spaces that allow control by an individual or by collective action.

5. The house needs to have a variety of focal zones or

elements which attract people to gather around them. Some
of these should be able to accomodate the whole family; some
of them should be better suited to sub-groups within the fam-
ily. Some should be intended for active or noisy use; some
for more passive, quiet use--it goes without saying that a
certain amount of conflict might be avoided if these kinds
of places were not overlapped or put right next to one another.
The house also needs places for all the activities that are
somewhere between active and passive, noisy and quiet. The
house may need to accomodate the interaction of two or more
family sub-groups at once, so several interaction zones are
called for to allow for this option. Some of these focal
zones need to accomodate two or more activities at once (kit-
chens, work rooms, play rooms); conflicts here must be avoided
between the users' activity needs, but the positive benefits
of being together should be fostered. It is not an ideal sol-
ution to conflict, for example, to keep everyone out of the
kitchen because they get in the way; a better solution is to
provide for places within a place.

6. The house may also have some attractive zones which
do not depend strictly on their relationship to a specific
use, but which nevertheless may perform a valuable interper-
sonal bonding function by bringing people together there.
These kinds of focal zones may be created by using structural
bonding channels (opportunities to move, to perceive, to con-
trol, to understand abstract meaning, to engage in ritual)
as design elements to make "special" places that people want
to be in. These can be inside or outside, as can use-places.

7. The really attractive places combine critical uses
and activities, focal elements, the presence of structural
bonding channels, adequate space and definition to avoid con-
flict, and the necessary presence of focal family persons.
There is hardly any family place that is more attractive or
useful for bonding than a big country kitchen that you can
see out of and walk out of, and that has a work place, a fire-

place, a table, and plants hanging in the windows. The image
of a room like this is almost a symbol of the American family
unit, because it has everything it needs to allow positive
and complete family bonding to take place.

NEIGHBORHOOD BONDING CHANNELS

These are the channels that invite the individual to take
his first giant step into the world that is really "outside,"
beyond the security and semi-isolation of the family unit.
This is a critical connecting step; if the family structure
is to serve as microcosm as well as macrocosm, as a model for
widespread human relationships and also as an extension of the
individual, then the individual must have the chance to exper-
ience relationships beyond family ones. If he is denied this
chance, the family may serve only to reinforce his isolation
from a larger scale of human belonging.

The channels that are used to bring about this next level
of interpersonal relationships are progressive; i.e., each
acts as an access to the next. The first, Display and Exhib-
ition Channels, are low-risk channels; they allow the indiv-
idual to visually communicate to "outsiders" who and what he
is--what values he might share with them and how he might be
different from them. The person who initiates the display
and exhibition does not form any interpersonal bonds through
this action, but he creates channels through which others may
form bonds of understanding of him.

The use of display and exhibition channels makes the use
of the next set of channels, contact channels, lower risk than
it otherwise would be. The individual may understandably be
reluctant to "contact," make a two-way bonding overture toward,
a perfect stranger--somebody about whom he knows nothing. The
possibility of his being rebuffed is too great, and the risk
that is involved is the risk of having his isolation confirmed.
But if he can see and understand something about the person
he is approaching, he has an idea already about whether or not
his bonding overture will be successful.

Contact channels offer the first real opportunity for
reciprocal interpersonal bonding. They are most useful when

they are closely related (spatially) to display and exhibit-
ion channels, so that the first contact can closely follow
the first reassuring understanding.

Interaction channels are follow-up channels; they are
used to strengthen and develop the tenuous bonds that are
formed through the successful use of the first two neighbor-
hood bonding channels.

display and exhibition:

contact:

interaction:
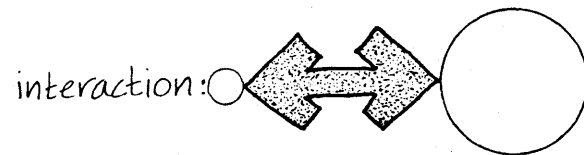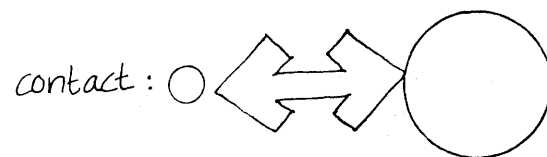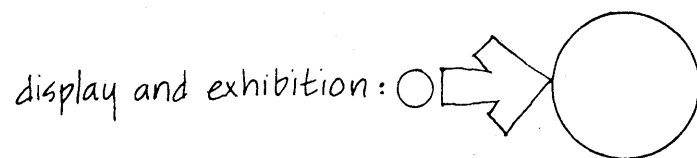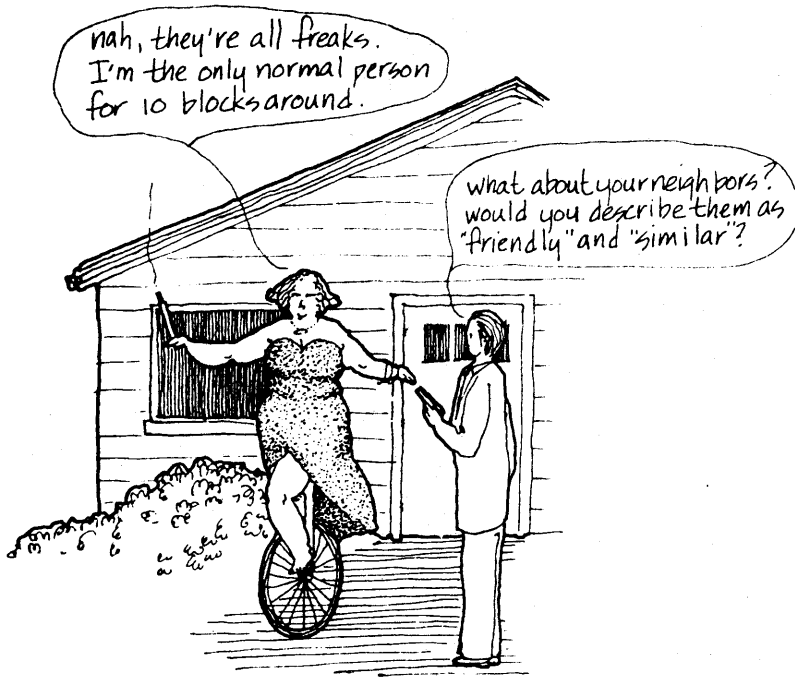
"In all cases the greatest proportion of respondents describing their neighbors as "friendly" and "similar" also rated their neighborhood "attractive," "well kept up," "pleasant," "good place to live," "like what I see," and "people in the community care."1

"As with most people at Easter Hill, Mrs. Price was far more concerned that she would one day live in a "good neighborhood" than that she should have an especially nice house. And by a good neighborhood, she meant one where people would have the same standards and values as herself."2

Cooper attempted to ascertain the importance that people attach to having friendly neighbors by asking Easter Hill residents to choose between an unattractive neighborhood with friendly neighbors and an attractive neighborhood with unfriendly neighbors.3 She writes, "It was significant that more than twice as many respondents considered that they could eventually make the place look attractive (and accordingly chose the unattractive/friendly neighborhood) than believed that they could eventually make friends in a neighborhood that was un-

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1 Henry Sanoff, Integrating User Needs in Environmental Design (North Carolina State Univ., 1973), p.92

2 Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.49

3 Cooper, ibid., p.148

friendly."[4]

The network of interpersonal bonding has a spatial dimension just as the network of structural bonding does. The individual feels as his most straightforward and satisfying attachment to the world one that is very strong and intricate at the most immediate spatial levels and becomes progressively less strong and intricate with distance. Interpersonal bonding is also most straightforward and satisfying when it coincides with this hierarchical principle. Hence, even if an individual is able to form a reasonable set of interpersonal relationships with people he encounters outside his neighborhood, if his neighbors refuse all bonding efforts, there will be a spatial gap in his sense of connection.

Having friendly and somewhat similar neighbors lays the necessary groundwork for the formation of interpersonal bonds with people who live close-by. These are the people whom the individual has the greatest chance of contacting in the course of his everyday home life, and if they are unfriendly or very unlike him, he will be denied a very basic access to a full set of interpersonal bonds.[5]

This has a lot to do with why house-seeking people often look, not just for the house they want, but for a neighborhood full of houses very much like it--in the hopeful assumption that the people who live in these houses will be very much like themselves.[6]

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[4] Cooper, loc.cit.

[5] See Herbert Gans, The Levittowners: Ways of Life and Politics in a New Suburban Community (N.Y., 1967), pp.165-174, for an argument in favor of local homogenity.

[6] See Arthur D. Little, Consumer Preferences in Housing (Cambridge, Mass., 1973), pp48-58, for middle-class home-buyers descriptions of the similarities they sought.

DISPLAY AND EXHIBITION CHANNELS

THE NEED FOR OPPORTUNITIES:

If I can't even tell which windows are mine, how in the world can anyone else?
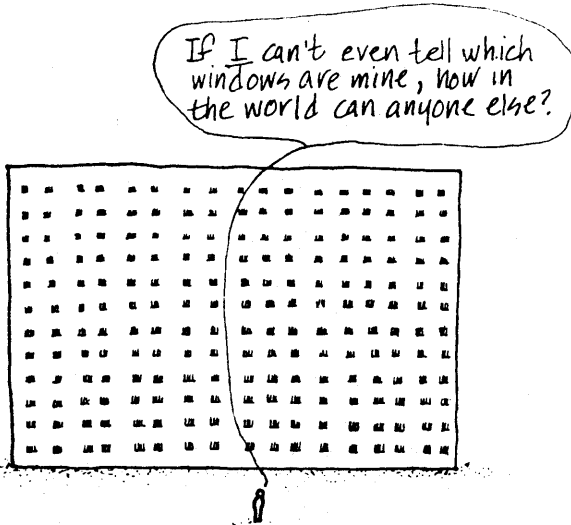
"...most [public housing] projects consist of large buildings, with many stories and many apartments per floor. Every household is surrounded by a myriad of adjacent tenants, who are perceived, not as neighbors, but as an undifferentiated crowd...Under these circumstances, it is difficult for individuals to distinguish differences or delineate barriers. The anonymity and massiveness of these design arrangements were viewed as unmanageable."[7]

The situation Hartman describes here--which is still all too representative of public housing conditions--denies people access to the most preliminary level of interpersonal bonding, i.e., to those channels which can be used to show others something about themselves. There are no parts of the living units in these places that can be visually individualized from the outside; it is not even possible to tell from the outside where one person's living space ends and another's begins. Yet the existence of this kind of bonding channel is just about essential if more fulfilling interpersonal relationships are to be realized.

The need for such a tentative, low-risk bonding channel as the exhibition and display channel can be directly traced to the existential dilemma which generates the need for all bonding channels: the individual feels a deep-seated suspicion that he is alone and isolated, and he needs to form bonds to counteract this suspicion. Yet he cannot be random in his

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[7] Chester Hartman, "The Limitations of Public Housing: Relocation Choices in a Working Class Community," Jour. AIP, XXIX, 4 (Nov., 1963), p.295

choice of bonding objects--especially when they are people. Here he knows from experience that he may be rebuffed, and his suspicions of isolation confirmed instead of diminished.

Exhibition and display channels help to reduce these very real worries that accompany the desire to be bonded to others; they allow the individual to be selective in his choice of bonding targets, and to realize a higher degree of success. Without them, as Hartman notes, the situation is "unmanageable"; the prospect of making interpersonal contact at all becomes so frightening that acceptance of isolation is almost better.

FACADE AND FRONT YARD: A TABLEAU FOR DELIBERATE IMPRINT:
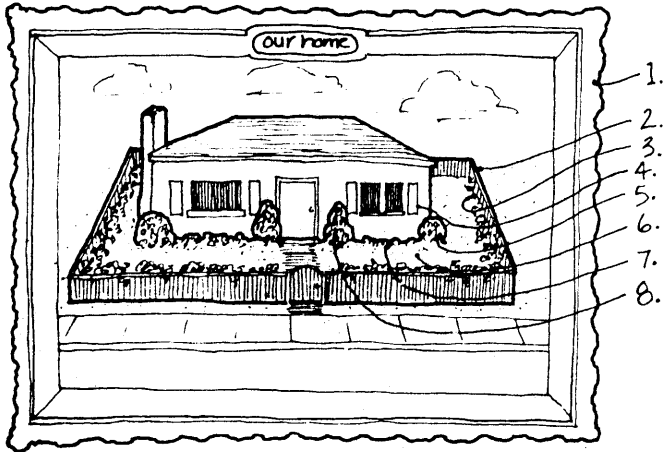
framing elements: the
house as a picture of
its people...

"Whereas the back yard at Easter Hill Village appeared to be a space into which family activities overflowed from inside the house, the space at the front of the house had more social connotations, forming both a barrier between the privacy of the house and the completely public nature of the surrounding neighborhood and a potential link between the small social group of the family and the larger social group of the community."[8]

"...by unspoken agreement the front yard would be cared for conscientiously, but the backyard was of less importance."[9]

Living spaces do not always have front yards and facades, but where they do, these two things have a very special function to perform for the inhabitants: they are eminently suitable for use as display and exhibition channels. They allow the inhabitant to design and construct a little picture for the viewing pleasure of others.

One reason that they can be used in this way so successfully is that they are very obviously attached to the house, so there is no mistaking the source of the display effort; the inhabitant can be sure of receiving full credit for whatever visual statements he wishes to make here. For another thing, they are the intermediate zone between the private and the public, and so can be assured of a maximum of exposure; these are the parts of the house that people pass by and see, hence they are the parts that must be carefully cared for to maintain their communicating value.

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[8] Cooper, op.cit., p.99

[9] Gans, op.cit., p.48

Planting, clipping, mowing and building which is done in back yards may be done for other reasons--ritual behavior, semiological perception or control, or family bonding. These things may enter into what is done in the front yard too, but here exhibition and display may be a more important reason than any of these.

At Easter Hill Village and at Levittown, to which the quotes on the previous page referred, there was no question about where the front yard was and where the back yard was, and what were the appropriate functions of each.

At Charlesview Housing Complex, the situation was not so clear and simple; although each ground floor unit here had two attached and directly accessible pieces of ground, these
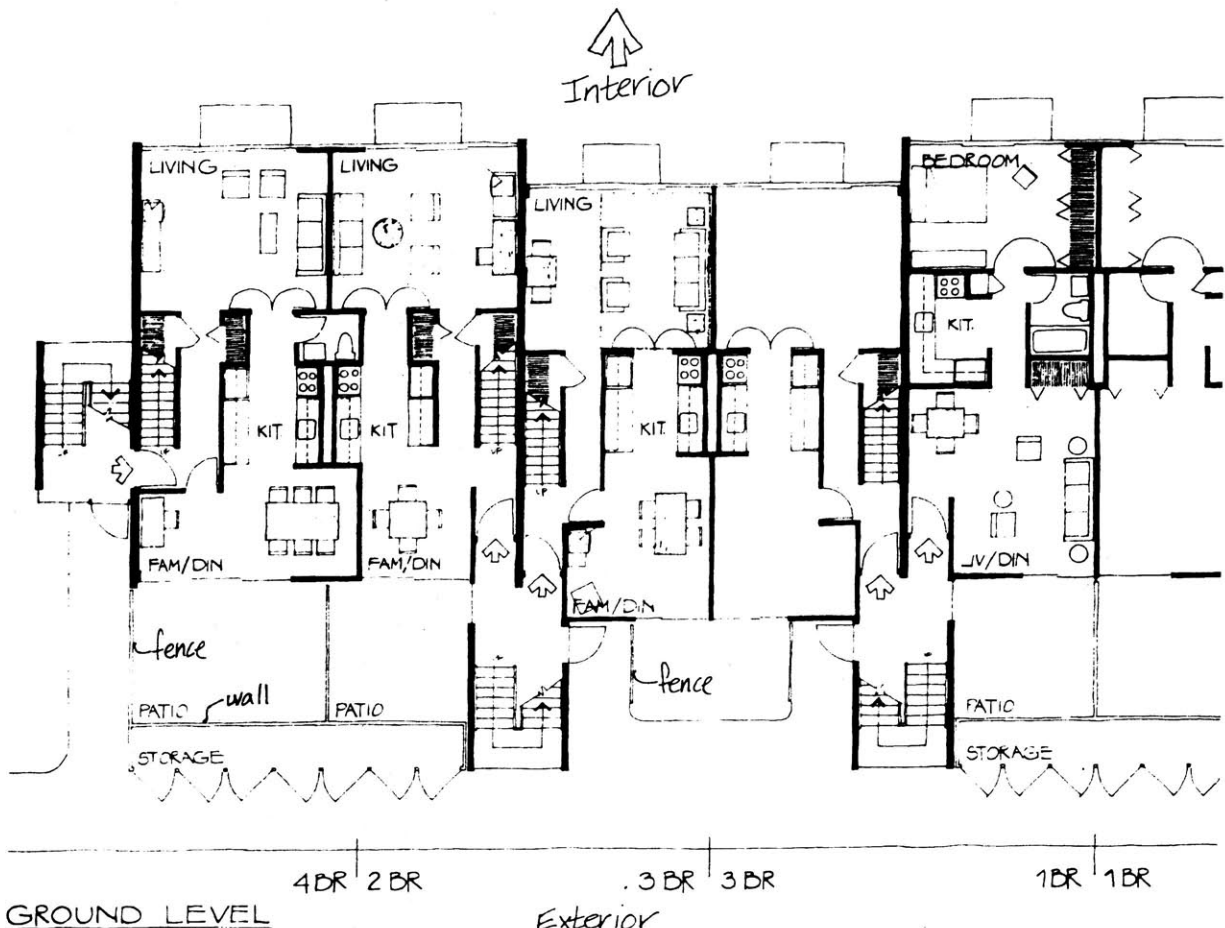
GROUND LEVEL
Charlesview housing:

see section on "Movement Channels" for
a site plan of Charlesview; p.101

were not defined unambiguously as front and back, public and private, yards.[10] Instead, they were "interior" and "exterior" yards--the interior fronting onto the open courts which were supposed to have been the social milieu of life in the complex, and the exterior fronting to the traffic side of the site, where cars and pedestrians entered. The interior had sliding glass doors, as did the exterior; but the "regular" entry doors were also located on the exterior. Even so, the architect had intended the interior to be perceived as "front." Thus, both interior and exterior potentially might have served as display and exhibition channels.

The residents, however, chose to develop the exterior pieces of ground extensively, and the interior pieces hardly at all. Zeisel and Griffin describe at least two factors that may have been influential in this choice. One of these was the fact that the interior was not as active as the architect had envisioned--people did not stroll up and down, back and forth, sizing up their neighbors by what their lawns looked like.[11] In fact, so few people walked through that the communicative value of a beautifully kept piece of ground was lost. Most people walked around the exterior.

The second factor was that, while the exterior pieces of ground were fenced or defined, the interior were undefined and contiguous with the court.[12] The communicative value of these pieces of ground was limited then, anyway, because their relationship to particular units was unclear--even though there were doors opening onto them.

The interior pieces of ground did not meet the two absolute prerequisites which give an exhibition and display space

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[10] John Zeisel and Mary Griffin, Charlesview Housing: A Diagnostic Evaluation (Harvard Univ., 1975), pp.69-77; illustration from p.9

[11] Zeisel and Griffin, ibid., pp.54-58

[12] Zeisel and Griffin, ibid., p.74

bonding value; i.e., it must have exposure to being <u>seen</u> by as many people as possible, and it must reflect unambiguously on the individual who "displays" there.

ADOPTION OF PRIOR HOUSE DIFFERENCES AS PERSONAL DISPLAY:

It is not always necessary for an individual to actively <u>create</u> a display of his own specialness for others to be able to identify him through his home. The communicative benefits of those things about his house which are already special or different accrue to him too. Ant kind of noticeable visual difference--in size, shape, color, material, orientation-- which distinguishes a house from neighboring houses disting- uishes the house's inhabitant too, giving him a display and exhibition channel he doesn't have to work for.

Cooper mentions, for example, that the people who lived in the end-of-the-row houses at Easter Hill Village were sig- nificantly happier with their houses than were those residents who lived in the middle of the row.[13] The end people's ent- ries were on the side, which made them clearly different from
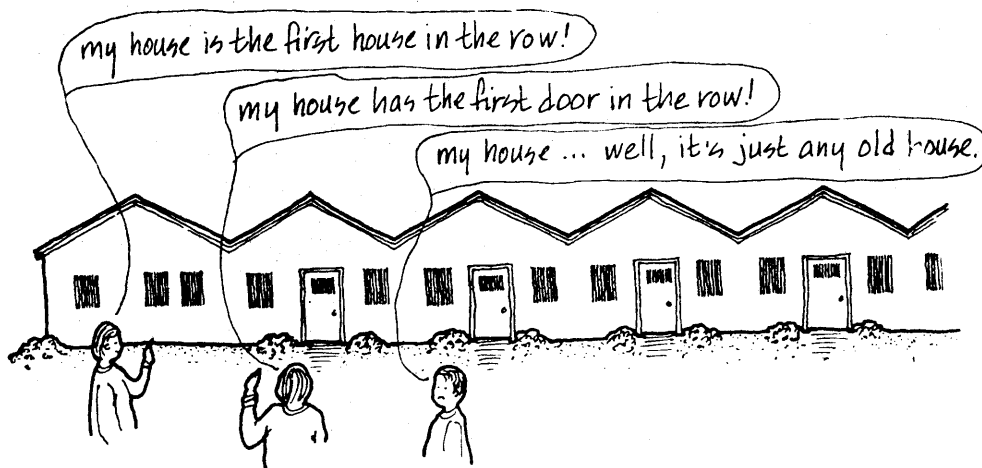
all the other entries in the row. Even more interesting was the fact that people who had their <u>entries</u> on the end of the row (those whose houses were second from the end) were also

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[13] Cooper, op.cit., p.127ff.

happier with their houses than middle-of-the-row-ers. Pre-
sumably this was because their entries too had a distinguish-
able location, while other people's entries could only be
distinguished by counting--using the end entries as a start-
ing point, incidentally.

Easter Hill Village designers had a nodding respect for
the importance of "differences" in residences, and had varied
colors and trims within an overall scheme--but not enough to
make a noticeable difference to residents. In terms of the
appearance of the houses, most people did not think they
looked very different, even though they would have liked them
to.[14] Yet their own efforts to produce some visual differ-
ence--even with minor touches like repainting the porch trim--
were disallowed by the Housing Authority.[15]

Cooper writes, "...an emphasis on superficial trim differ-
ences which are not readily perceived by nondesigners, which
do not affect people's day-to-day use of the environment, and
which are not susceptible to the residents' own additions and
changes will rarely create in and of itself an environment
which is admired for its variety."[16]

This is, of course, true, because such superficialities
are not even noticed by casual observers--no interpersonal
bonding benefits from them accrue to anybody. They are simply
not seen, and so are totally ineffective as a preliminary,
first-step bonding channel.

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[14] Cooper, op.cit., pp.139-142
[15] Cooper, op.cit., p.91
[16] Cooper, op.cit., p.142

DESIGN IMPLICATIONS

1. People need places on the outsides of their homes in which or on which to make a visual display. This should rarely be a problem in the single family, on-the-ground house, detached or attached--because the front yard and house facade ordinarily permit a degree of personal expression in a place where it can be seen by others.

It becomes a problem if such expressive needs are not deemed worthwhile by management, and are disallowed. It may be somewhat of a problem also if display areas (yards) are not defined enough to look like they belong to the house, or if they are oriented in such a way as to be not visible to very many people.

It is even better if the house is already positively different and identifiable.

2. The need for visual display becomes a _real_ problem in living situations where front entries to living units are inside (apartments) and/or where living units are off the ground so that passers on the street cannot easily see visual displays that are attached to the house. A partial solution is the use of street-facing balconies to put or hang things on, or the use of street-facing windows that are really display windows. These can be used to let the passer-by know something about the resident in that apartment, but are only partly successful because they are difficult to follow up on-- it is only when one can see a person enter and leave his living unit that a connection between the _person_ and the display becomes clear.

More effective exhibition and display channels in these cases would be located close to front doors inside--interior windows, tack boards, places for graphics or grafitti for each apartment, and some interior definition of the front door area as a hard-surfaced mini-yard. These measures would allow con-

tact with close neighbors, the other apartment dwellers, to
follow, because they would be able to make an initial assess-
ment of the person through his display.

CONTACT CHANNELS

"I always said I'd never buy a house without a front porch, and I don't have one, and I miss it. I'd like to sit on it and drink beer and holler at my neighbors."[1]

"...the porch served a most useful function, the same as is performed by the stoop of a New York tenement house: to be a place from which you can view others, and in which you can be seen."[2]

The front porch is the prototypical contact channel. It is connected to the house, close to the front door and the security of the family structure inside, so that the person who presents himself to the more public eye there is still unquestionably on private territory. He can keep one foot on base, so to speak, while he makes his first tentative personal gestures toward forming external relationships.

It is "out front," where the opportunities for casual contact are the greatest; and it is surrounded by display and exhibition channels, so that a lot more can be seen of the porch-user than just his physical presence. He can, by sitting on the porch, make himself a part of the public tableau that incorporates his values, tastes and ideas.

Finally, since it is part of his house, he does not have to rationalize his use of it. Even though one of the porch's major functions is allowing interpersonal contact to take

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[1] Arthur D. Little, Consumer Preferences in Housing (Cambridge, Mass., 1973), p.50

[2] Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), p.91

place, its user does not have to lay his pride on the line
to take advantage of this function--he does not have to sit
there demonstrably alone and eager, hoping somebody will come
by and talk to him. He is essentially in his house, and he
can drink beer, read the paper, sit in the sun, and simultan-
eously pick up on whatever opportunities for contact happen
along.

FRONT YARDS AS CONTACT CHANNELS:

"...those who wanted a perfect lawn
stayed away from the talkfests that
usually developed evenings and on
Saturday mornings when the men were
ostensibly working on the lawns, so
as not to be joked about and chast-
ised as ratebusters."[3]

     Front yards are excellent contact channels for the same
reasons that front porches are: they are public-oriented
places to see and be seen from; they use the house as a back-
drop, so that display and exhibition becomes a visual adjunct
to the individual; and there are other reasons for being in
the front yard that make interpersonal contact, important as
it is, seem incidental or accidental.

     The front yard is a little more removed from the house,
making face-to-face contact a possibility, but diminishing
the security of being "in the house," on built stuff. The
use of territory that is not clearly home territory for con-
tact requires real bravery; thus front yards where the bound-
aries are not unequivocally defined offer less of an effective
contact zone than if the whole yard visibly "belonged" to the
house.

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[3] Herbert Gans, The Levittowners: Ways of Life and Poli-
tics in a New Suburban Community (N.Y., 1967), p.48

THE FIRST STEP INTO NEUTRAL GROUND:
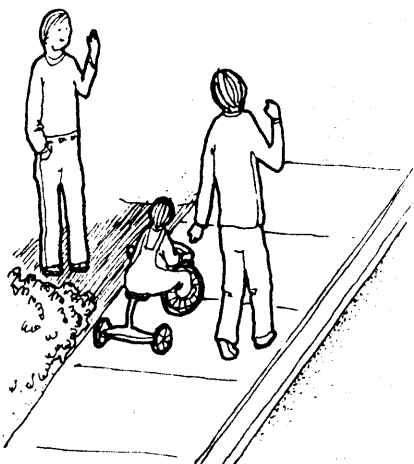
"The intrepid and extrovert few can go up and introduce themselves, but for most people such a frontal assault, with its tacit admission of loneliness and the possibility of being rejected, is impossible. In good weather, however, opportunities and excuses were at hand. One could take the children outside, and spend some time with them until a neighbor appeared, or one could work on the lawn for the same covert purpose. If these methods did not work, people could--and did--walk up and down the street with baby carriages or tricycling children as a way of extending the exchange of hellos to a meeting."[5]

The sidewalk is still more removed from the comfortable home ground--it "belongs" to the individual's house (at least the part of it that is right in front does) because visual connection still exists, and the psychological connection of the sidewalk as a movement channel exists too. But it is simultaneously a completely open, public zone with a clearly defined functional use that is not really compatible with any but the most cursory kind of contact.

The sidewalk is first and foremost something that people use for walking from place to place, and when they are really using it for this intended purpose--to get to someplace else--the most casual contact they are likely to make to someone they don't already know is a quick nod. At worst, unacquainted passers may each pretend the other doesn't exist.

If the sidewalk is to double as a worthwhile contact channel, people must have a believable excuse to linger there. The new residents in Levittown used their children for this excuse. Sometimes people leisurely walk dogs, or walk with each other going noplace in particular; already established groups are free to use "just hanging around" as an excuse to linger.

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[5] Gans, op.cit., p.46

CONTACT ON COMMON GROUND:
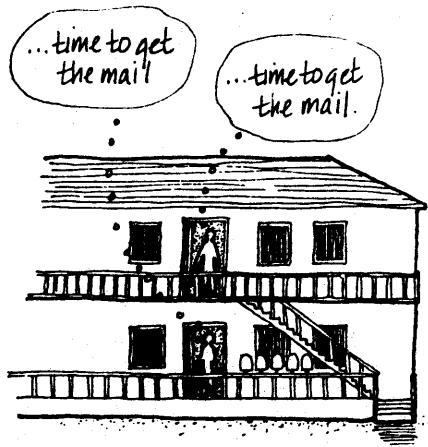
"...friendships are likely to develop on the basis of the brief and passive contacts made going to and from home or walking about the neighborhood. These brief meetings, if they are frequent enough, may develop into nodding acquaintanceships, then into speaking relationships, and eventually, if psychological factors are right, into friendships... Passive contacts are determined by the required paths followed in entering or leaving one's home for any purpose."[4]

At Westgate West student housing, to which the above comment refers, contacts were influenced by 1. the fact that residents in the five units upstairs had to use the stairs at either end of the ground floor to enter or leave their apartments, and in doing so were exposed to contact with the ground floor units; and 2. the fact that upstairs residents had to get their mail at one end of the ground floor, and so were regularly exposed to contact at a fairly predictable time of day.[5]

That these two conditions were effective in producing interpersonal contact was apparent in the results of Festinger, Schachter and Back's study of the social groupings which developed here. Ground floor residents who lived by the mailboxes and stairs frequently knew and were friends with upper floor residents because upper floor residents of necessity frequently passed by their front doors. The incidence of such friendships was much less between the middle ground floor residents and the upper floor residents, because upper floor residents seldom had reason to venture into these residents' "contact territory."

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[4] Leon Festinger, S. Schachter and K. Back, Social Pressures in Informal Groups: A Study of Human Factors in Housing (N.Y., 1950), p.34

[5] Festinger, Schachter and Back, ibid., pp.34-43,48-50

Local movement channels, then, can provide opportunities for contact if they are used frequently enough and/or predictably enough by different people to get to the same neutral contact zone.

Individuals are not completely comfortable in making contact in such neutral zones because they are not backed up by their own visual exhibition and display, nor can they see and assess the other person's exhibition and display. Thus, as Festinger, Schachter and Back point out (in the comment on the previous page), it may take some time for the contacts made here to develop from mere acknowledgements into more viable interpersonal relationships.

CONTACT OVERKILL:

Since initial contact is an absolute prerequisite to the formation of more highly developed interpersonal bonds--one can hardly be best buddies with somebody one has not first encountered--it would be expected that more friendships would develop where opportunities for contact are the greatest. Where people have chances to meet, they have chances to become friends. This seems to be generally true up to a point, yet, like most good things, contact can be overdone. It can become something which is more irritating than it is positively valued.

This seems to happen when contact becomes less of an <u>opportunity</u>--an option which the individual can take advantage of or not--and becomes instead an omni-present something that is not open to personal choice. At this point, it begins to infringe upon the individual's control of other parts of his bonding network--blurring the distinction between family and non-family and diminishing the security value of the more genuinely intimate family bonds.

This is because it represents a non-selective, imposed visual intimacy where no selective relational intimacy exists-- which is a clear conflict within the order of the meaning network. The intimate visual distance that forced, constant contact implies is appropriate only at the level of the most intimate interpersonal relationships--i.e., those <u>within</u> the family and within the house--and is not appropriate to the less articulated relationships that an individual has with his neighbors.

People need to preserve the real intimacy of the family unit intact; it is here that they can be themselves thoroughly as they cannot under the surveillance of those who do not <u>know</u> them thoroughly. When casual contact infringes on this level of intimacy, it must be guarded against, which may mean restrictions on perception, on movement, on behavior, etc.--in

short, the effects of too much unsought contact are felt throughout the meaning network.

It is an important point for the designer to understand that providing opportunities for contact does not mean providing for non-optional, constant contact--because such contact either destroys the integrity of the family unit as a special bonding unit, or causes people to close off other connections to the world in order to preserve this integrity.

Cooper found this kind of contact to be a problem in some parts of Easter Hill Village--where houses faced each other across a court--and not a problem where houses faced a street
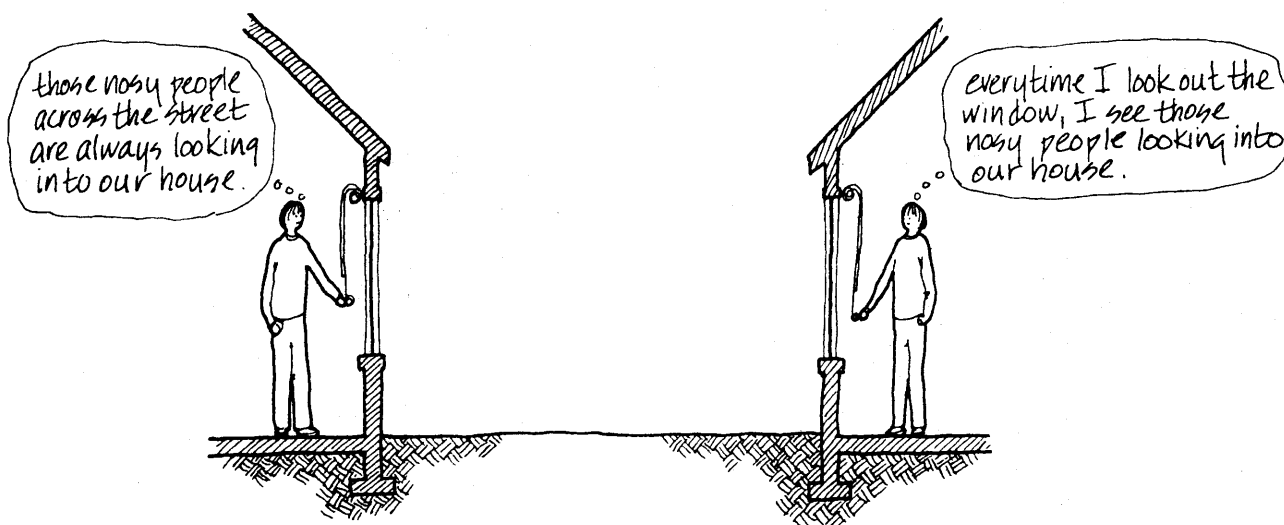
instead.[6] The court arrangement did facilitate the making of interpersonal contacts; people who lived in these houses tended to know significantly more people than did the people who lived in the street-facing houses. But the court-facing houses had a head-on view into each other, and the social advantages were not worth this price. Both the people who lived on the courts and the people who lived on the streets thought the street-facing houses were a better deal--they were more "private."

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[6] Cooper, op.cit., p.32

DESIGN IMPLICATIONS

1. People need to have places where they can make first
or casual face-to-face contact with their neighbors. If they
are ever to get to know them well, they must first be able to
meet them. The places where this is likely to happen most
effectively are places that work very much like display and
exhibition places, but for the inhabitants themselves as well
as for their visual statements. Where there is a place for
the person to be that is within or next to his display space,
it makes a good contact place.

2. Single family, on-the-ground houses again have less
of a problem with contact places. They ordinarily have a side
that is public, where people can expect to make contact, and
usually some area (though sometimes it is very small) on this
side that is between the house and the public movement channel.
This area, where display and exhibition are placed to attract
the notice of passers-by, needs also to have a defined place
within it where the house inhabitant can comfortably place
himself; he looks ridiculous standing in the middle of his
yard or leaning against his house looking hopeful, and he knows
it. A transitional, inside-outside part of the house that ex-
tends into the contact zone (a porch, a front patio, steps)
gives him a contact place where he can perform some house ac-
tivities as an excuse to be there; he can also use the main-
tenance of visual display as a reason to be in this space.

3. Off-the-ground, inside-entry living arrangements again
do have a problem with contact places; here the same kind of
definition/indentation by the front door that was suggested
as a display arena might also be a place to be in if it were
large enough and had some functional use advantages--table,
chairs, benches, magazines, sunshine, a view across the hall.
Dutch doors might allow the inhabitant to make his entry a
contact zone without sacrificing security entirely.

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4. The chance to have exhibition and display spaces beside, behind, or all around a contact place makes the contact place much more effective; other people can see who the inhabitant is and develop enough assurance to make contact.

5. Contact can be facilitated by grouping certain necessary or desirable activities (laundry facilities, mailboxes, play equipment and places to sit, picnic tables and outdoor fireplaces, a big screen TV, or several ping-pong or pool tables) in a common place, so that people who go there often for the activity will have some chance of encountering each other often.

6. Contact can either be encouraged or killed by the layout of the movement networks. If nobody ever goes by a particular house, the value of its contact areas are nil; the inhabitant is forced to take the initiative then and go out walking by other people's contact zones to enlarge his own interpersonal bonding network. End-of-the-cul-de-sac (hall or street) houses have this problem; it might suggest placing some common attraction beyond this otherwise appropriately called "dead end."

7. People need to be protected from unwanted, unsought, random contact; they should not have to live in a goldfish bowl where all the streetside or common-wall rooms are as exposed to contact as the porch and the yard are.

NEIGHBORHOOD INTERACTION CHANNELS

Interpersonal bonding through extended interaction with neighbors begins to be beyond the realm of house design. It is clearly an issue that needs to be considered where more than a very few living units comprise the scope of a design, or where neighborhood planning is the focus of design; but seems to be a more incidental function of the single living unit.[1]

A reasonable amount of neighborhood interaction--probably as much as is really desirable before it begins to violate family structure and privacy--can usually be accomodated in the house's other interpersonal bonding spaces and channels. Contact spaces and indoor and outdoor family interaction spaces can be used to prolong casual meetings or to entertain neighbors and friends with whom the individual wishes to form a closer relationship. The most that this might imply (if these spaces _are_ adequate for their other bonding functions) is that inside interaction spaces also have display and exhibition characteristics, so that they can "present" an image to outsiders too.

Gans describes how the people at Levittown used their houses as neighborhood interaction centers where they could extend and solidify preliminary contacts into real interpersonal bonds: "Women asked, 'Are you settled yet?' If the answer was positive, then invitations could be exchanged to look

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[1] See Clare Cooper, Easter Hill Village: Some Social Implications of Design (N.Y., 1975), pp.105-108, for her assessment of the need for site wide neighborhood interaction focii; a place for mothers and children to meet other mothers and children; a place for teenagers to get together that didn't make them feel like they were "apart"; children's use of the rock formations as an interaction focus, and teenagers' use of the porches. See also John Zeisel and Mary Griffin, Charlesview Housing: A Diagnostic Evaluation (Harvard Univ., 1975), p.47, for their description of the use of parking lots and sidewalks for neighborhood interaction channels.

at each others' houses. Being settled meant that the house was in sufficient shape to express the image that the women wanted to create among their neighbors... Once the image was ready, and an initial meeting produced no rejection, people were prepared to exchange information and to look for common backgrounds or interests that would bind them together."[2]

Interior display and exhibition was important here; people were uncomfortable about having non-family members come into a house that did not reflect an image of them on the inside as well as on the outside. This was understood and respected by neighbors, who no doubt felt more comfortable themselves going into a house that showed them whose house it was.

Neighborhood interaction within the house generally takes place in the same spaces that are important for family interaction. Neighbors gather in the kitchen or dining room, for eating together or coffee-klatching; or in small or large activity spaces, for playing or working together; or around focal elements, fireplaces or focally arranged living rooms. These spaces already are the kinds of spaces that facilitate interpersonal interaction; because they are attractive and useful for non-family interaction as well, they are the places that the family will "decorate" to display or exhibit an image.

[2] Herbert Gans, The Levittowners: Ways of Life and Politics in a New Suburban Community (N.Y., 1967), p.46

DESIGN IMPLICATIONS

1. The more public inside activity spaces sometimes need to accomodate more people than just family members. The dining room table, for example, is inadequate for neighborhood bonding if absolutely no more people than the family contains can squeeze in around it; although it may be used at other times of the day when one or two neighbors drop in to see a particular family member, it is not as fully useful as it could be. The same is true of a living room that can only seat three people.

2. These areas need to have display and exhibition characteristics in the same way that the more public outside parts of the house do--they need to have surfaces and sub-areas that are suitable for displaying favorite things--pictures, collectables, objects. They need to have dimensions and definition characteristics that allow a high degree of control over use and furniture arrangement, because these are part of a family's self-expression.

3. Neighborhood developments and housing complex designs need to have other interaction focii that are outside of living units. Laundries and mailboxes work best as contact channels, because they are not places for prolonged hanging around, and because the things that neighbors do there are not things that they do with each other. Recreation spaces and shared work facilities work better to develop contacts into real interpersonal bonds.

SELF-AKNOWLEDGING BONDING CHANNELS

SELF-ACKNOWLEDGING BONDING CHANNELS

There is a tremendous need for psychological research into how house environments cause people to feel about themselves. Clare Cooper's paper, The House as Symbol of Self, remains the classic work on this subject.[1] Yet what it offers is much more of an intuitive, provocative statement of the unresolved questions than it is a definitive attempt at researched answers. Pulir Garg's almost unknown paper, which suggests that houses and their people are either introverted or extroverted, represents another attempt to uncover a subliminal influence which the house might have on the personality development of its inhabitant.[2]

These are the only two of the housing research studies that comprise the information base of this study that examine this possibly critical influence in any depth. Yet it would seem to be almost an unavoidable focus of the house designer's concerns. People do live and grow within environments--house environments and other environments--and not in experiential and physical vacuums. Their experienced environments provide them with all of the raw material which is used to structure a network of understanding--this includes understanding of self as well as understanding of environmental structure and meaning and of other people.

It seems unreasonable to assume that any more of the individual's self-image than perhaps some vague and generalized tendencies can arise from within himself, without the benefit of environmental stimulation. What the environment gives to the individual can be used to further his own development and insight; what it does not give to him can, quite simply, not be used. Thus the influence of the environment is potentially

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[1] Cooper, working paper #120 (Berkeley, May, 1971)

[2] Garg, House Structure: Its Impact on Personality Orientation and Cultural Cognitive Styles (unpub., MIT, Jan., 1962)

limitless.

It is this point that leads me to propose the existence
of self-acknowledging bonding channels in the environment.
These would seem to be those environmental conditions that
give the individual the raw material he needs to further his
own growth. Yet because the psychological research base for
this is so insignificant, the ideas here must remain strictly
on a proposal level--they can be no more than intuitive and
suggestive.

The psychological research that has been used to come
up with an idea about what these channels might be is Abraham
Maslow's work with self-actualizing people.[3] These people
seem to reach their full potential as humans by progressing
through a series of necessary growth stages that were described
earlier in the text (pp.61-64). The environment no doubt has
something to do with whether or not this progression can take
place; it is only when it provides conditions that allow growth
tendencies to be fulfilled at some stage that growth can occur--
otherwise it is suspended. Positive, growth-facilitating en-
vironmental conditions, then, offer self-acknowledging bonding
channels: they permit the growth and restructuring of the in-
dividual's understanding of himself.

A progressive series of self-acknowledging bonding chan-
nels, or growth conditions, should always be present in the
adult's environment, because he doesn't outgrow his needs for
food or sleep or security, or for the other needs he has prior
to self-actualization. He always needs to preserve the option
of feeling that he belongs and is respected, otherwise he can-
not be firmly grounded in his self-actualization.

It may also be true--and the possibility cannot be over-
looked--that the infant needs the same full complement of self-
acknowledging bonding channels in his environment. Even though

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[3] Maslow, Toward a Psychology of Being (N.Y., 1968), pp.
3-4 et passim.

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some of his growth needs are dormant and don't require immed-
iate fulfillment, he may become <u>aware</u> very early of the growth
potential inherent in the environment and begin to develop a
broad base for growth at all stages. If the environment is
lacking in self-acknowledging opportunities at this point (or
at other points thereafter), it may have a permanent detrimen-
tal effect on the individual's chances of ever becoming "self-
actualized," because his base for doing so may not be strong.

It seems apparent in any case that infants need more from
their environments than food, sleep and security; but since
so little is known about the environment's influence upon a
person of <u>any</u> age, the specifics of these further needs is un-
clear.

SUSTENANCE CHANNELS - DESIGN IMPLICATIONS

People have to eat, sleep, eliminate, move, speak, see, hear, smell, and feel throughout their lives--these are the things that their bodies, if they are fully functioning, can do and must do. This list is a bit more inclusive than the normal list of biological needs, yet every action here can be thought of as a biological need in its own way--because they are all actions that the human body, because of its biological nature, clamors to do, and feels incomplete if it cannot do. The doing of these things is the way the individual learns about and experiences his own body, its needs, functions and feelings. This is the first and most basic way that he "senses himself."

There is never any question that the environment must allow the individual to eat, sleep and eliminate; these are really sustenance needs. The individual can hardly keep his body from doing them, even with a great show of will power-- they are necessary to his life. The design implications here are fairly obvious too--the individual needs places to do these things; and the kinds of characteristics these places should have to permit him to do these things comfortably have been discussed so extensively in other sections that they need no further elaboration here.

The implications of the other things a body can do, and should be able to do, are not so obvious; or at least, often don't receive much design consideration as "necessary" activities. Yet they are very important too; unless the individual can use each of them extensively as a means to discover and explore his own physical potential, he cannot be fully aware of what his potential is.

This means that the environment should have places where the individual can experience all the ways that his body can move, his voice can produce sounds, and his senses can experience; as well as places to find out what it feels like to

satisfy the first three sustenance needs.

To find out what he is like through moving, the individual needs to be able to move--not with the direct intention of getting from place to place, as in the movement channel, but just to feel the experience of moving.
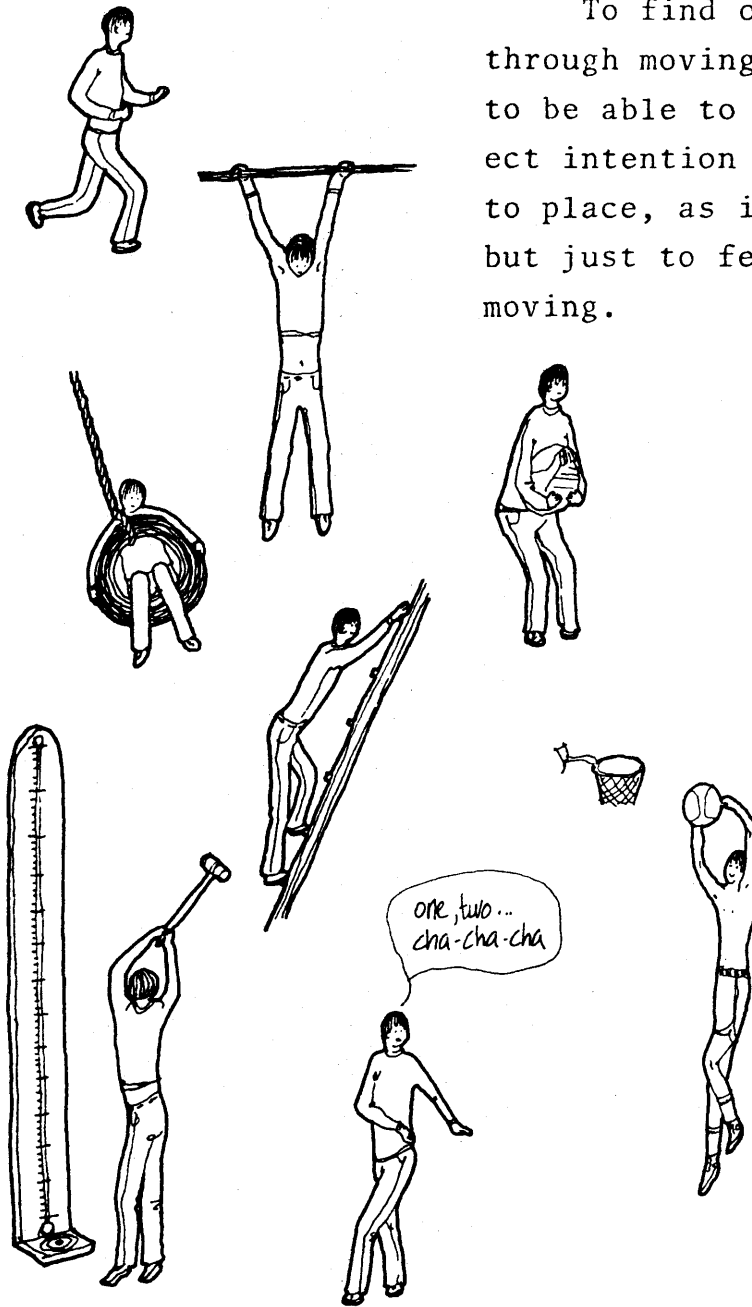
There should be places in his environment for running, stretching, swinging, climbing, lifting, pounding, dancing, bouncing, and experiencing movement in a thousand other ways. These are especially critical for children, who are still developing a feeling for their bodies by moving in all these ways, but are not unimportant for adults, who--it is to be hoped--may still want to keep in touch with these feelings.

one, two...
cha-cha-cha

The environment should also have places where seeing is all important; just seeing--lights and shadows and colors and interplay--with no other meaning than the joy of receiving these images with the eyes. Stained glass windows, colored mobiles, sunlight making moving patterns through
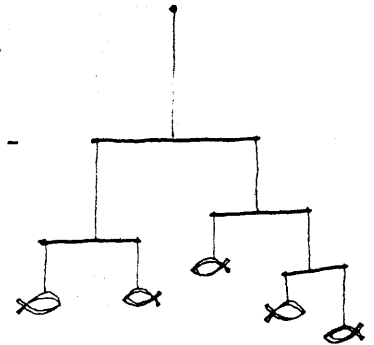
leaves, fire flickering and dancing and water sparkling and bubbling, and places for a lot of other things that are beautiful just because they are.

The environment should have places for experiencing the potential of the voice--places where screaming at the top of one's lungs won't bother anyone, and places that invite whispering...

HELLO DOWN THERE!

HI!

ECHO CANYON
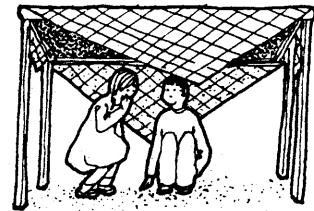
There should be places to hear, to experience all the different nuances of hearing --places for listening to other people speak and sing and make music and read poetry, places to listen intently for subtle little sounds that otherwise might not be heard at all, places to curl up with the stereo and earphones, places to hear birds and water and rustling leaves, beautiful sounding door bells and better sounding telephones and pleasant sounding cuckoo clocks...

cuckoo cuckoo cuckoo
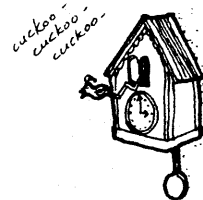
There should be places to smell things, and things that smell good, and even things that don't smell so good--a whole range of smells.

And lastly, the environment should offer for the individual's experience a full range of things that can be felt: textures and temperatures and wetness and things that can move over the skin.

The individual needs access to all these kinds of things in order to find out about the body that contains him, that is the source of all his feelings and responses, that is him.

Although he can usually use these kinds of environmental components as other kinds of bonding channels--to describe his environmental image, to give meaning to his world concept, to move from place to place, to form interpersonal relationships--their first functions are as self-acknowledging bonding channels that allow him to experience himself in his physical being.

SECURITY CHANNELS- DESIGN IMPLICATIONS

A feeling or state of security is without question a very important part of a person's self-concept. It has to do with whether or not he senses himself as a physically/emotionally vulnerable being, and if so, to what degree. It is also a part of his total self-concept that can derive from environmental factors, and from a semiological perception of the meaning of these factors--whether they are "threatening" or "non-threatening."

If a person understands certain environmental factors, or even his whole environment, as "threatening," then he has used structural bonding channels to know something about his environment and its meaning, but he also knows something about himself: he knows that his vulnerability is such that he _can_ be threatened. The same is true if he perceives his environment as non-threatening; he then knows that he is "secure," not subject to harm.

The particular dichotomous meaning of "threatening/non-threatening," which is present in some shade or degree in every environmental factor, offers a self-acknowledging bonding channel that lets the individual know where he personally stands in regard to his own vulnerability.

Naturally it is better for the individual if he has an image of himself as at least somewhat vulnerable, because there is no getting around the fact that he _is_. He needs to have a minimum sense of this enough to take precautions against real physical damage that might happen to him. But in terms of psychological bonding, what the individual seeks is a sense of himself as invulnerable; he wants the environment to assure him of the personal continuation that he wants and the personal sanctity that he feels. Every threatening environmental situation that he encounters, then, undermines his own "good" self-image a little bit.

The environment <u>should</u> be as non-threatening as fore-sight can possibly make it. There is no reason to stick a few dangerous places in to make sure the individual won't forget his own vulnerability, because there are plenty of these kinds of situations around already to make sure he won't. The designer's goal should be to create a safe, secure environment, or even better, a positively hospitable, comfortable one--so that the individual feels not only that he won't get hurt, but that he is protected from being hurt.

This means that the designed environment should not have situations that can be determined to be dangerous (neither should the non-designed environment, but we can't do much about that). All of the obvious no-no's should be conscientiously weeded out: outside steps without hand-rails that the designer knows will be slippery in winter, inside stairs with floor-ceiling windows facing the bottom step or landing for people to fall through, clear plate glass doors for people to walk through, unfenced swimming pools for neighbor children to drown in, slippery horizontal surfaces, jagged vertical surfaces, cliff-like unfenced edges, clear traffic conflicts (inside and outside), ceilings at stair landings that are too low, stairwell light switches that are either upstairs or down, but not both--the list can go on forever.
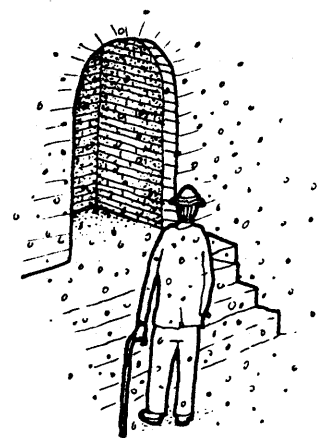
People have a tendency to fall down in places like these...
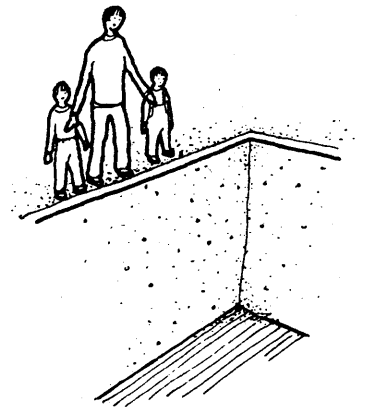
People have a tendency to fall off of places like these...
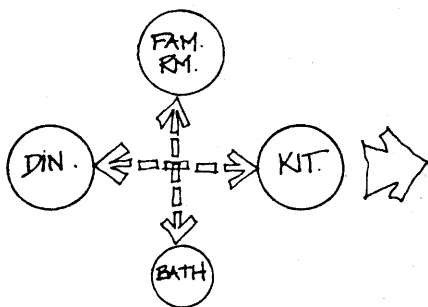
People have a tendency to collide in places like these...

The only way that it seems possible for the designer to make sure that he is providing adequate real security is for him to think ahead in great detail about just what is likely to go on in all the spaces that he is creating, which persons will be involved, and at what time of day and year. Beyond that, he must rely on the flexibility of the environment to allow changes where his judgment has been wrong.

Security also means, however, that the environment should not only be safe, but should be perceived as non-threatening. A couple of anecdotes can make clear what this implies.

Anecdote #1, told by Professor Eric Dluhosch, involved a person who was paid a considerable amount of money, on a regular basis, to reassure prospective tenants in a tall glass building that they would not fall through the windows. This he did by running at top speed and flinging himself against the very substantial (but not very substantial looking) glass.

Oh, my god...

Professor Dluhosch also tells about a woman who wanted to rent an apartment in the same kind of building, and who came back each week for several weeks asking to be shown the same apartment. Over the course of time, she began to perceive the windows as a little less threatening, and eventually signed a lease.

Anecdote #3 was the subject of general discussion in John Habraken's fall 1975 seminar at MIT; it involved an incredibly huge, elaborate, and obviously very heavy chandelier that was held up by a very tenuous-looking (but of course very strong) steel cable--the cable apparently must have looked like a thread in comparison to what it was holding up. This chand-

elier was hanging in a lobby,
and invariably, persons walk-
ing into the lobby carefully
and conscientiously avoided
walking under it--they went
around instead. The chandel-
ier's presence contributed
not so much an aura of ele-
gance as an aura of ominence
to the lobby.

We're taking bets on how much longer it will stay up there...

The moral here is that if materials or elements or cir-
cumstances in the environment are there to prevent what would
otherwise be a real danger, they should look like they can
prevent it; there should be no visual question about whether
the danger exists or not. The individual's sense of personal
security is confirmed only by his perception of the absence
of threat; if he perceives the presence of threat, it matters
little whether the threat is real or not in terms of his own
sense of security--this remains shaky in either case.

PRIVACY CHANNELS - DESIGN IMPLICATIONS

Privacy is actually a condition in which the individual removes himself from others' sight and reach, removes his voice from their hearing, removes his precious things from their touch. Its value as a self-acknowledging bonding channel results from the protection that it gives to the individual's separateness. Having the option to go off somewhere and close and lock the doors and be physically, visually and audially alone is a situation that allows him to develop an unequivocal sense of his own separateness. This is much more difficult to do if he never has the opportunity to be separate by choice.

Privacy is important to the individual's own structuring of his self-image in the same way that family privacy was important to family structuring. The family was seen to be a special, intimate bonding unit, the boundaries of which needed to be clearly defined; these boundaries were weakened and blurred when other, less intimately known persons intruded upon the private family zone. The individual is the most intimate bonding unit, and his self-image becomes blurred too if there is no zone where his internal intimacy--all that about himself which is known only to himself--can be protected from intrusion by others.

This sense of specialness, separateness and intimacy of self is a necessary counterpart to what Maslow terms "the need for belongingness," which is the third of the five progressive growth levels he identifies.[1] It is at the point in his development where the individual begins to be aware of his own separateness that he begins to need privacy and belongingness both.

Needs for belongingness are satisfied through the inter-

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[1] Abraham Maslow, Toward a Psychology of Being (N.Y., 1968), pp.25,199-200

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personal bonding channels; needs for individual privacy should
be satisfied in the home, because there is no other place in
the world that belongs more to the person. The lack of intim-
acy that he feels with another place intrudes on his privacy
just as surely as would his lack of intimacy with another per-
son who might intrude.

The design implications of the need for personal privacy
are so obvious that they hardly need much elaboration. It
is clear that every individual should have the option to be
physically and sensually alone if he wishes; he should have
what may be thought of as a per-
sonal home within his family
home, a place that is inviolate
if he wishes to exclude all
others. This is true for all
members of all family sub-
groups--husbands and wives and
sisters and brothers (twins
and triplets, etc., included)
and whoever else lives in the family house--simply because
there is no interpersonal relationship that is so close that
the individuals involved do not each need a sense of personal
separateness.
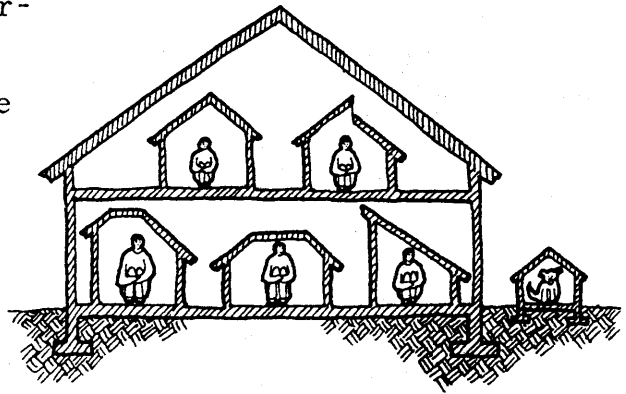
SOLITUDE CHANNELS - DESIGN IMPLICATIONS

Solitude means "aloneness" too, but in a somewhat different way than privacy does. Privacy is guarded and protective, and is a condition where the emphasis is on the physical world: the actuality of the person--his body--is removed from the physical presence of others to attain it. Solitude, on the other hand, is an introspective psychological state. It may often be easier to attain when it is accompanied by privacy, because privacy may remove the individual from a lot of external distractions, but the state of being "alone in a crowd" is also a state of solitude.

Solitude offers an indispensible self-acknowledging bonding channel, because the individual needs to look inward in this way to put together the information that he receives from looking outward. To an extent, solitude must accompany the productive use of all the other self-acknowledging bonding channels as they provide the individual with his self-image "raw material."

Environmental privacy, for example, is only able to contribute to the building of a self-image if the individual is able to look inward to see what it means to him to be physically alone. The same is true of eating, moving, seeing, and the other so-called sustenance channels, and of environmental security: he must consider inwardly what these things mean in terms of who and what he is. Without a degree of solitude, these things act primarily as structural bonding channels, and not as self-acknowledging bonding channels.

A solitude channel is an environmental situation that encourages the individual to look inward...
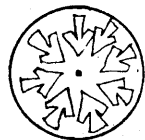
instead of outward...
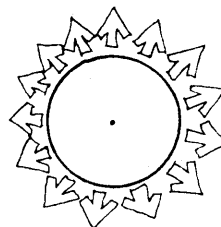
The most important environmental condition for solitude is a lack of distraction, or at least the individual's ability to tune out distraction, to filter through all the chaff to find the kernel of self-acknowledging value that exists in his environmental situation. This is an extremely abstract thing for the designer to deal with. The question which confronts him is how to allow the individual to make the most of all the opportunities his environment offers him to construct a self-image; how to encourage him to contemplate, meditate about, be introspective about what he finds around him.

The other self-acknowledging bonding channels which are considered in this section point up those environmental situations that seem to have particular value in the formation of a self-image (body-experience places, secure places, private places, etc.); and these should be the focus of efforts to encourage solitude as well.

One way that this might be done could be through the actual screening of certain of these places to suggest aloneness and introspection--places for viewing, listening, touching, smelling eating might be handled in this way.
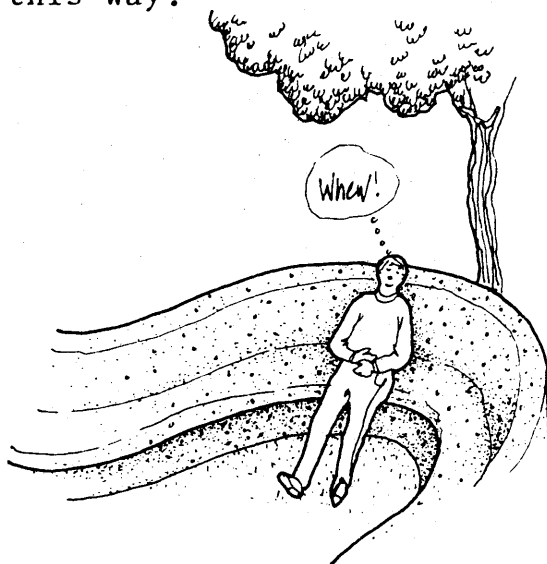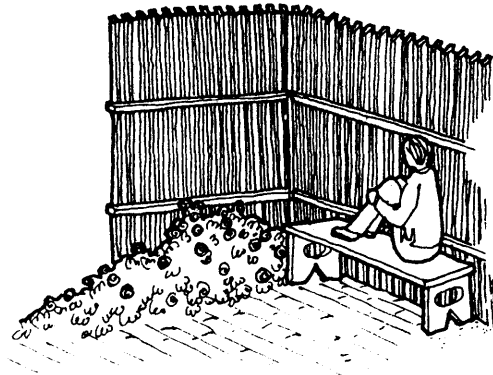
The inclusion of smaller, ostensibly quiet places adjacent to larger movement places might encourage contemplation related to movement. These would be the places where the individual would plunk himself down to rest after a great deal of strenuous exertion, and would probably be the places where he feels his body the most anyway.

Whew!

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Another measure that might be of some value to encourage inward-looking could be making the use of some of these places very deliberate. Places could be designed for particular kinds of movement or particular series of movements instead of just random running around. Or an adventure playground theme, which is even more deliberate, might serve as well for places other than playgrounds--where individuals would actually be encouraged to create for t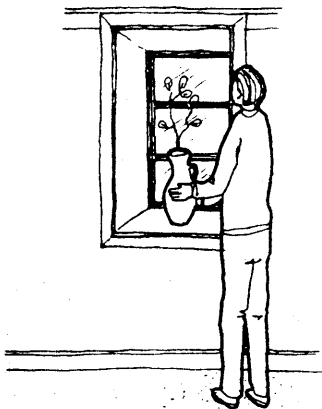hemselves the kinds of environments they need for moving, for viewing, for privacy. The Japanese concept of movable screens offers interesting possibilities for doing this: the individual might have to do more to secure privacy than simply shutting a door; he might have to move some panels around to make his private place. If his actions were necessarily so deliberate, he might also find himself thinking more about what he was doing, and why, and might gain some self-acknowledging insight in this way.
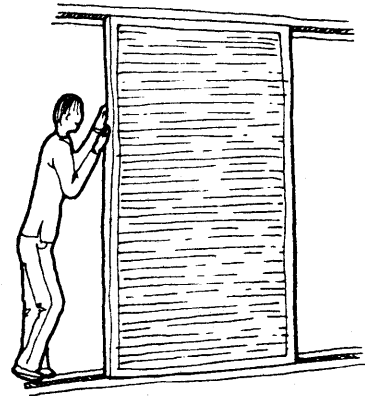
Provision for regular environmental change might encourage introspection. People seem always more aware of spring during the first few real spring days, and more aware of winter during the first snowfall; and somehow, these major environmental changes are able to produce not only greater environmental awareness but greater self-awareness and contemplation too. One feels the spring and the winter within oneself. The Japanese again offer a perfect example of a regularly changing place that is intended to produce introspection: the tokenoma is a little viewing place where the displays are kept always fresh and new. A vase of flowers might be replaced by a precious object; this

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might be replaced by some freshly gathered leaves. The purpose is simply viewing and introspection.

The designer might also consider over-emphasis and simplification as ways to weed out distraction and encourage attentive contemplation. This would seem to be particularly important in making security channels useful as self-acknowledging channels. Here the elements that exist in the environment to protect the individual mean more if they are bigger, clearer, more obvious; they can invite the individual to reflect about their meaning if they are over-stated enough to demand his notice.

There is no guarantee that any of the above measures would in fact help to produce the reflective state of solitude; they are untested and unresearched, but they seem promising. It is important for the designer to consider some measures (which might be different from these, and more appropriate to particular situations) which might encourage self-awareness and solitude in the places that contribute most to the individual's self-image development.

COMPETENCE CHANNELS - DESIGN IMPLICATIONS

The individual's development of a sense of his own competence can also be traced to a variety of environmental conditions--primarily those which allow him to produce, create, control and decide. The doing of the kind of self-projective things that these conditions invite assures him once again (as the security channels did) that he is not helpless--but this time he finds assurance of his effectiveness more than of his invulnerability.

He also finds a way to explore what his body and mind are capable of doing under conscious direction--competence channels offer a much more deliberate means of investigating and developing the potential of the full person than did the more purely exploratory sustenance channels. Here he is not so much interested in what his body can do and feel almost without direction, as he is in what his rational, conscious mind can do in cooperation with his body.

It is through producing, creating, controlling and deciding that he is able to understand the combination of his mind and body as "good" and effective, and to form an image of himself as a "competent" and integrated person.

Competence channels are to be found in some of the same environmental conditions that offer structural bonding opportunities; i.e., in semiological and physical control, and in ritual behavior that has to do with productive/creative work and maintenance. The self-acknowledging value of these conditions is the reciprocal of the structural bonding value; the individual uses them to form an image of his environment as responsive, dependent and meaningful, of himself as responsible and effective, and of himself and his environment as a cooperative unit that can work to bring about something new or to maintain something good. His role in this is very powerful: he is the initiator and the "driver." Hence the contri-

bution that competence channels can make to his self-image
is also very powerful.

The design implications of this are fairly obvious. Peo-
ple need to have places where they can work and create and
produce, and places where they can make decisions and plans
and choices. They need to change, build, invent, design and
dabble in their environments--not just for the sense of en-
vironment that can be gained by their doing so, but for the
sense of self that is also to be had.

Some of the places where these things are done need to
incorporate solitude channels to emphasize their self-acknow-
ledging value; they need to encourage more deliberate use,
to be more private, or to be more open to change.

Work and maintenance are already very deliberate; control
may be made more conscious and deliberate. Building a fire
to keep warm is much more deliberate than turning up a thermo-
stat; moving room components around to make a niche is much
more deliberate than putting furniture in an already existing
niche; building a house is infinitely more deliberate than
choosing a house. Those things which are more deliberate (and
more time,energy and thought consuming) do more for the indiv-
idual's sense of competence. They are better self-acknowledg-
ing bonding channels because they require the individual to
think more about the meaning to himself of what he is doing.

A degree of privacy or seclusion can also encourage the
individual to reflect more about his actions, and can enhance
the self-acknowledging value of competence channels. Work
that is done in private does a lot more for the individual's
self-image and sense of competence than work done on an assem-
bly line. In private, in the absence of environmental and
interpersonal distraction, he has a chance to think about what
working means to him; and a chance to develop pride in a pro-
duct that is his and pride in himself for having produced it.

Change also enhances self-awareness and introspection.

This does not mean that the individual has greater opportunity
to develop a competent self-image if every time he goes to
his workroom or kitchen someone has changed it all around.
It means that the control decisions which <u>he</u> is able to make
should not be once only and final. He should be able to use
control over and over again to effect a never-ending string
of changes, because every change <u>he</u> makes brings a new inten-
sity of recognition to his image of competence.

SELF EXPRESSION CHANNELS - DESIGN IMPLICATIONS
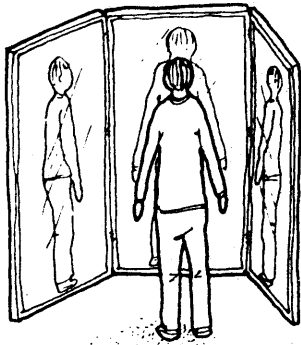
Self expression allows the individual to get his self-image out into the environment where it can be looked at, tested, refined, reconsidered, and re-incorporated. It offers a very deliberate, very conscious way for him to participate in his own growth and image integration.

When a person sets about "doing" self-expression, he makes an environmental statement which is already representative of his internal values, ideas and understood meanings, and afterwards, he is able to use his own creation as the environment which further stimulates his growth. Self expression allows him to engage in a dialogue with himself, in which the environment is the intermediary, or messenger, receiving the expression and giving it back to be used again.
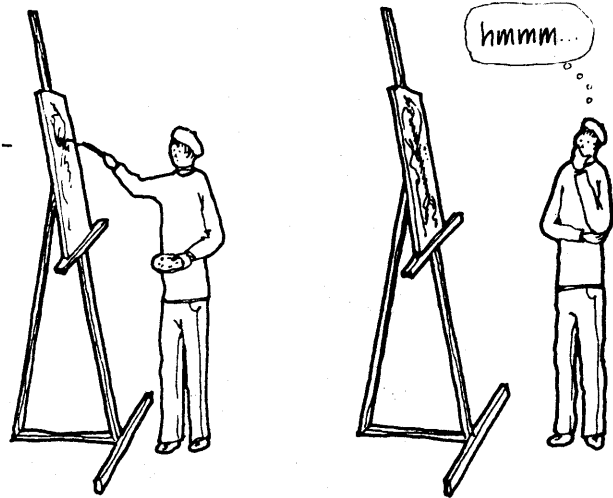
This can be a much more effective way for the individual to resolve his immediate growth crises that a pure dependence on whatever environment he happens to find to contain the information he needs at that moment. If he creates the environment himself, he can be sure it will at least address his concerns, and may clarify and help him resolve them.

Self-expression is important as a final statement too, over and above its usefulness in resolving image conflicts and concerns. It gives the individual a way to bring together in one place all the bits and pieces of self-image that he

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has gathered over the years in far-flung environmental places,
and to make an environmental statement that represents what
the inclusive environment really tells him about himself. In
doing this, he is able to experience the "essence" of his en-
vironmental-based self-image, as he is not in the diffuse,
non-self-created environment.

The environment which the individual creates through self-
expression is really the most valuable and useful environmental
self-acknowledging channel of all--better than any that the
designer or anybody else can create to help the individual find
his own image. His image can be found in this environment be-
cause he places it there himself.

It is very important for people to be able to practice
self expression in their homes, even if they are able to no-
where else. The home is the environment that needs to be most
consistently supportive of the individual's self-image, be-
cause it is where he spends so much of his time. It is also
where he does most of his growing, developing, experiencing
and resolving, so it is where he most needs to use self express-
ion as an outward tool to resolve his internal conflicts.

The designer can allow for self expression in several
ways:

1. He can make special places where
it can occur as an active exploration--
big, indestructible places that don't
mind getting messy and dirty, with count-
er space, wall space, floor space, stor-
age space, a lot of height--these might
also be the kinds of places that are
needed for productive/creative work,
which offers a form of self-expression.
He can also make special places for spec-
ial kinds of self expression--music,
dance, etc.
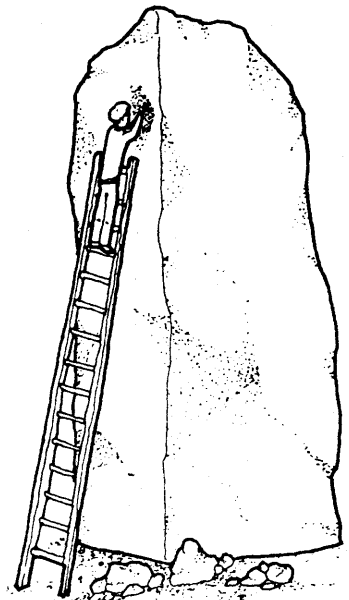
2. He can make special places where it can occur as a visual display--tack boards (or whole walls that are tack surfaces), grafitti walls, picture walls, knick-knack shelves, shelves that go all around the room, display niches, big window sills and the like.

3. He can assume that self expression needs the two kinds of outlets above, but probably should not (or could not) be restricted to them, and can try to make the whole house a self-expression arena. This would indicate a concentration on flexibility, adaptability and choice--rooms that allow the greatest number of options for use and furniture placement, walls and surfaces everywhere that invite decoration (with shelves, inset
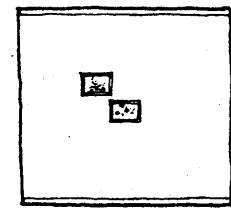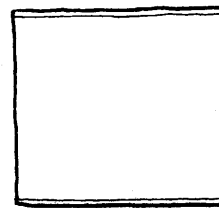
A wall like this might suggest this ⟶
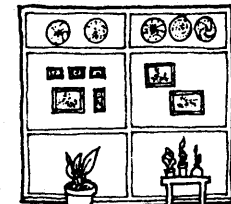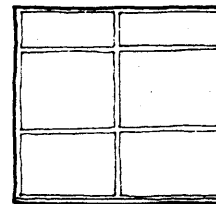
A wall like this might suggest something like this ⟶

panels to suggest pictures, finishes--cork, grasscloth--that don't show holes), perhaps even rooms that can be changed around and made bigger or smaller or non-rectilinear. Movable wall panels or portable room screens or ceiling-mounted roll-up fabric or bamboo shades are options that invite spatial self expression.

The importance of self expression in the public parts of the house has been mentioned before as an interpersonal bonding channel. People do use these parts of the house extensively as places for making visible and tangible their beliefs about themselves, because it is a very useful way to communicate these beliefs to others. But the need for self-expression goes beyond the need to make communicating overtures to

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others; self expression is something the individual needs to do just for himself. The designer should try to make self-expression an option even in the most private places in the house, because it is in these places that it offers its greatest potential as a self-acknowledging bonding channel.

ASSOCIATIVE CHANNELS - DESIGN IMPLICATIONS

In the fall of 1969, in one of my first architecture classes, Professor Rainer Hasenstab's environmental awareness class at the University of Washington, I was privileged to attend a very thought-provoking lecture one day given by orni-thologist, socio-biologist and all-around generalist-thinker Gordon Orians. One of the things that Professor Orians talked about was why people (in general) liked certain kinds of en-vironments. He talked in particular about why certain park landscapes seem to be a lot more "ideal" than others; why peo-ple enjoy being in gently rolling landscapes with spreading trees scattered here and there, and why this kind of land-scape is used as a park theme much more frequently (and more successfully) than either a dense forest landscape or a flat, treeless landscape.

The theory that he suggested was that the gently rolling, moderately-treed landscape was akin to the savannah landscape; and that human beings first developed a liking for this kind of environment during their early evolutionary days on the savannahs. The advantages of such a landscape at this devel-opmental point are clear: gently rolling ground gives a per-ceptual advantage--one is better able to judge just how far
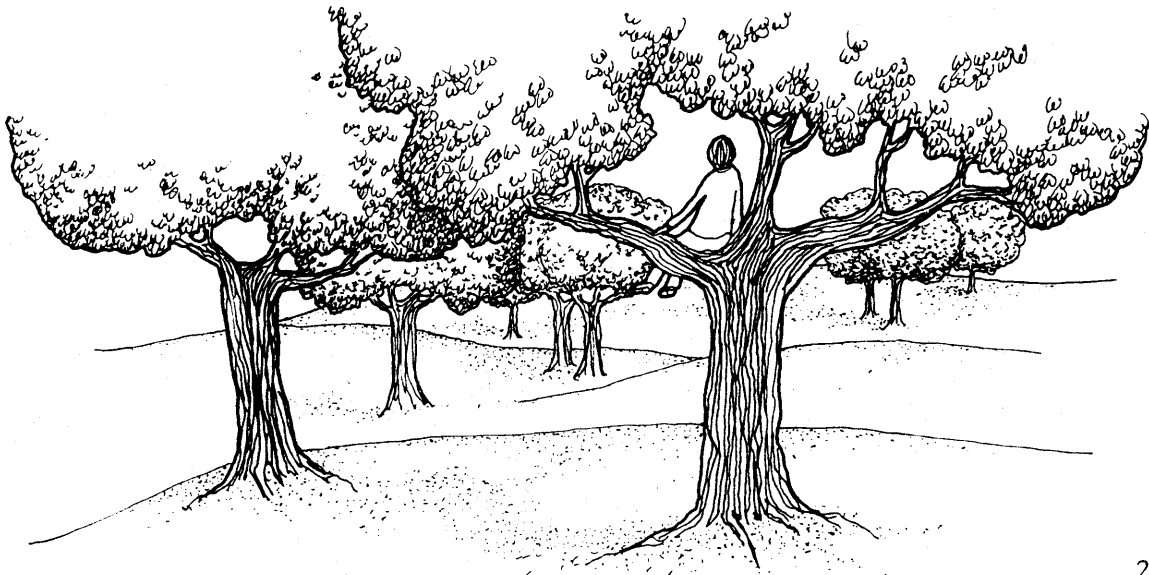
away other things are because the perceptual world is layered
by the rises and falls of the land. This is not the case
where the trees are too dense to see through for any distance;
nor where the landscape is so flat that distances become am-
biguous. Moreover, spreading trees spaced some distance apart
offer good vantage points; the person can climb up and sit
in the tree and increase his perceptual range. Both of these
factors were very important in the early human being's defense
and in his hunting for food--he could pin-point his enemies
and his game in this environment.

Since this evolutionary period went on for such a long
time, Professor Orians suggested, a preference for such a land-
scape became deeply ingrained into the human psychological
structure, became an "archetype."

This was the first incident that impressed upon me the
immense depth and subtlty of some of the human desires and
preferences the designer has to deal with. In the course of
my research for this thesis, I have encountered a couple of
other presumably "innate" human preferences that seem to
trace to the same evolutionary stage, and to the same critical
early need to use the great human advantage of visual depth-
perception to sustain and further life.

The first of these has to do with human delight in being
in small cozy places that open into big, expansive places.
Yi-Fu Tuan says, "Certain natural landscapes appeal to us...
The senic attractions often correspond to a narrow defile, a
gorge, water gap or valley that opens out to a bright sunlit
plain."[1] Clearly, these kinds of landscapes have the same
strategic advantages that Orians' savannah landscapes have;
they offer a long and wide view from a protected point. Tuan
also remarks on the parallel between this experience--coming

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[1] Tuan, Topophilia: A Study of Environmental Perception,
Attitudes and Values (Englewood Cliffs, N.J., 1974), p.28

out into the open from the enclosed--and early human migration "from the womb-like shelter of the tropical forest" to the open savannah.[2] He even stretches the archetype farther than this, comparing the experience to the first human experience of birth.[3] He is able to draw some very interesting conclusions about built landscapes from this; he comments, "The appeal of cities lies in large part on the juxtaposition of the cozy and the grand, of darkness and light, the intimate and the public."[4]

This would seem to be valid not only for cities; such a juxtaposition also offers some interesting things for the house designer to consider, obviously. It gives him a way to make places "special" because there is something deep inside human beings, a psychological reaction, that says such places are special, and good. It can also be a way to make the act of "coming out" correspond to the spatial experience of "coming out," so that the most private places in the house might be the smallest, tightest, coziest--the ones to come out from--and the experience beyond these might be made deliberately and progressively more expansive.

Gaston Bachelard suggests another kind of place that may share in these archetypal associations--a place of "high solitude." He writes, "From the solitude of a belfry-tower, a man watches other men 'running about' on the distant square bleached white by the summer sun. The men look 'the size of flies,' and move about irrationally 'like ants'...this is specifically the dream of high solitude."[5]

The kind of passage that describes the experience, Bachelard notes, appears so often in literature that it is

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[2] Tuan, op.cit., p.27

[3] Tuan, loc.cit.

[4] Tuan, loc.cit.

[5] Bachelard, The Poetics of Space, trans. Maria Jolas, (Boston, 1969), p.173

trite, a cliche; it describes an experience that almost every
human being has experienced, or can imagine, and it almost
always carries positive--deeply, even wistfully positive--as-
sociations. This may be because it evokes such a deeply in-
grained psychological response to the environment. It is
again the experience of being up in the tree, surveying the
landscape, that long ago was so important to mankind.

High solitude places offer the designer another way to
make space that will be archetypally meaningful, that can
generate a response already waiting deep within the individual
for an environment to call it forth. They need to be little
more than places which are somewhat above their surroundings,
in which the individual has some protection from being seen
from the outside, and from which he can see a certain area
of his surroundings.

All of these kinds of places--
savannah-like yards and neighborhoods,
houses with cozy bedrooms and now-in-
vogue cathedral ceiling living rooms,
low-ceiling entries (like mouths of
caves) opening to the great outdoors
and to the more expansive insides,
crows-nests and high view windows and
inside and outside balconies--are pos-
itively valued house-places that can
be traced to this archetype. They
seem to offer self-acknowledging
channels because they put the indiv-
idual in touch with a deeply innate part of himself--with that
part of his mind that gives an evolutionary base to his envir-
onmental response.
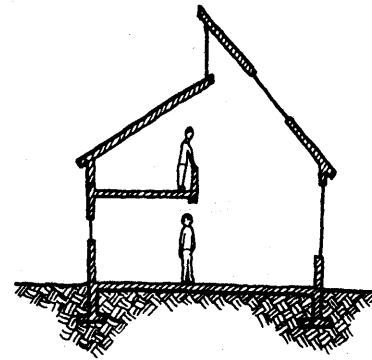
this little house has a
cozy place, an expansive
place, and a high-solitude
place.

There are probably other such kinds of places that gen-
erate a deep and fairly consistent human response, and other
archetypal reasons why this might happen. Jung suggests, for

example, that the circle (mandala) is an archetypal shape.[6] This may have something to do with the omnipresence of circles in nature--everything from a flower stem to an elephant's leg seems to grow as something round.

It is even possible to think that every kind of space that exists in nature--a fully mind-boggling range of sizes, shapes and qualities--carries a degree of archetypal association--simply because nature was the environment in which man became man. The kinds of articulation and juxtaposition which are found in nature then (in terms of spaces, masses, elements, textures, colors and light) might be in many ways analogous to "good" house spaces.

Yet the amount of psychological research that exists in this area is discouragingly minimal--not enough to give the house designer any more to rely on than his own intuition and personal insight as a human being.

Hopefully, the thoughts in this section (and those in the preceeding sections too), will offer some thoughtful support to the designer's use of intuition--as it too is a key to the deep human psyche that we all share. And, sketchy and random though they often are, perhaps these thoughts might also serve as a basis for badly-needed further real-world research about how people need to live in houses.

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[6] Carl G. Jung, Memories, Dreams and Reflections, ed. Aniela Jaffe (N.Y., 1963), pp.195-199, and other works.

EPILOGUE

This thesis is at best an overview, and a very preliminary, fragmentary, singular one at that. It does not focus in any depth whatsoever upon a myriad of social, cultural and human factors that also have a lot to do with people's feelings about houses; it touches only upon bonding values that might exist in place characteristics themselves. Even these have been dealt with in simple, subdivided terms, which is not the way they really are--an attempt to diagram the major cross-influences between our 19 bonding channels shows real complexity and interdependence:

semiological control

physical control

movement

physical perceptual

semiological perceptual

family interaction

structuring

ritual behavior

conflict avoidance

sustenance
(paramount at growth level 1.)

solitude

security
(paramount at growth level 2.)

self-expression
(paramount at growth level 5.)

privacy
(paramount at growth level 3.)

associative

competence
(paramount at growth level 4.)

exhibition and display

contact

neighborhood interaction

This diagram is a semi-lattice; and it is not surprising that it should work out that way, because bonding channels are, after all, the tools that people use to construct their semi-lattice, intricately inter-related meaning networks, their personal comprehensions of all existence. Nothing falls into neat (or relatively neat) categories that can be exclusively named and considered, even though doing that often seems to be the best way to get a handle on the components that might inter-relate.

This thesis could go on and on, considering the inter-relations of these 19 channels, doing field research to verify them, adding and subtracting and reorganizing, throwing in non-environmental factors, etc. That is not in the cards now, because a several thousand page thesis is beyond my time and energy capabilities. But, still, there is a lot more to be considered.

Probably one always has both regrets and satisfactions when one concludes a piece of work, and I am no exception--I have a few of each.

My greatest regret is that I was not able to conduct a substantial and reliable piece of field research as a basis for this study; the research that I used was (and is!) extremely useful, but it was not tailor-made to consider these problems, and my conclusions remain an abstraction. More field research seems to be the logical next step.

My greatest satisfaction is that this work is a conclusion to much of what I have been doing and thinking about throughout my undergraduate and graduate years. At the same time, it is a point of departure for further work.

<div style="text-align: right">

Judith Bowen
MIT
May 4, 1976

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