Preserving a Form:  
A Reinterpretation of the New England Farm 
for Multi-Family Living 

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Submitted to the Department of Architecture in partial fulfillment of the requirements of the degree 
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ABSTRACT

Submitted to the Department of Architecture on May 12, 1989 in partial fulfillment of the requirements of the degree Master of Architecture.

The intention of this thesis is to present residential development based on a farm model as an alternative to subdivision in a rural context. The farm is not to be replicated exactly but the overall form is to be recognizable as a reinterpretation of the existing vernacular form of the New England farm.

The thesis presents a statement of dissatisfaction in the suburbanization of exurban areas. It suggests a design which respects the previous use of the land. References are drawn upon to implement the vision of a collective form in the landscape. Both formally and socially, the re-use of the farm buildings and relationships offer an alternative to suburban sprawl.

The five parts to this thesis are:

Personal Statement: a statement of observations and dissatisfactions with suburban land-use.
Design Intent: the description of goals set forth in the farm model as an alternative.
References: a presentation of inspirational and contextual references.
Design Explanation: the implementation of intentions on a site outside Hanover, New Hampshire.
Design Critique: a discussion of the success of the proposal.

Thesis Supervisor: Rosemary D. Grimshaw
Title: Assistant Professor of Architecture
Remembering the past
In honor of the present
With hope towards the future
DEDICATION

To my grandmother, Anne J. Richter (1905-1989) who inspired me to pursue my potential as a professional woman and without whom my academic career would not have been possible.
ACKNOWLEDGEMENTS

To Neal for all his support throughout this thesis year I am forever indebted

To Ann for keeping me sane throughout this entire graduate program

To Rosemary for helping me to see the forest for the trees

And to Reba who took me for many walks when I needed to go out
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INTRODUCTION

This thesis is composed of five sections. The first is a statement of personal observation and dissatisfactions. The second section is the general intention of the design. The third is about the references used in this design. The fourth is a presentation of the design itself. The final section is a critique of the design.

The thesis is presented as a patchwork quilt, a crazy quilt at that. Each section is like a piece of cloth which is patched with images, thoughts, and references. In fact, the metaphor for the project as a whole is a quilt. At one scale, the site is the quilt - the stitching the pathways that connect them. Or on another scale, the squares of cloth are fields. The stitching is a stone wall or a road. The whole is to the part as the part is to the whole.
PERSONAL STATEMENT

Background:

Once it was all farmland—all rural with villages spotted. The spots have bled and now the lone remaining farmhouse is all that's left unstained. Think of the attitude of developed vs. undeveloped.

In human settlement there is dispersion and containment, low density spread evenly and high density concentrated. Nature should win outside of the city. Perhaps what bothers me about suburbia is that neither form nor nature wins or dominates. Perhaps the street and traffic organization wins.
In its free use of space, the suburb was the precise opposite of most historic cities in the west. In the open spaces, behind and between buildings sometimes considerable cultivated areas within the [city] walls. In the suburb, on the other hand, there was a scattering of buildings in the midst of open space, the garden the park, the arcade of trees, the approaching road, formed an esthetic continuum. Rows of buildings no longer served as continuous walls, bounding street that formed a closed corridor: the building, divorced from its close association with the street, was embosomed in the landscape and deliberately absorbed by it.¹

[Railroad suburbs] strung along a railroad line, were discontinuous and properly spaced; and without the aid of legislation they were limited in population as well as area. .² [to assure walking distance to the railroad stations they were spaced 3-5 miles apart]
Landschaft "a traditional landscape"

...the antithesis of wilderness is landscape, the land shaped by men.

A landschaft was not a town exactly or a manor or a village, but a collection of dwellings and other structures crowded together within a circle of pasture, meadow and planting fields and surrounded by unimproved forest or marsh.

The essence of a landschaft in ancient and medieval thought is the intimate relation of fields and clustered structures share equal importance, but in the town no such equality exists. Indeed the fields are forgotten, and buildings and streets dominate the land. Traditionally, then, landschaft implies an agricultural community and a smallness of scale unknown in towns.³

The general pattern, determined chiefly by the walking time from housing to the fields...⁴
Dissatisfaction:

The American Dream, does it suit the needs of the American people today? A single family detached home, with a yard, driveway and garage. It is more than the physical manifestation of the house itself. It has cultural implications of status and personal taste; it is an investment. It is a symbol. It is a representation of individuality, yet it is one of billions across the country.

Because of the low density of single family detached homes, their development has eaten up much of the countryside in and around American metropolitan areas. Suburban development has a place outside the core of cities, but as our population grows it is spreading further and further from the city center. With the aid of the automobile, the super highway and the "strip" shopping center it is spreading further and further into what was once rural landscape. The suburb itself is no longer associated with the country as it once was.
If certain questions are not raised, our rural countryside is in danger of "suburbanization." Is suburban development the best use of our ex-urban land resources? Does it suit our current lifestyle needs? Who are the individuals that make up the market and what do they really want? Do they know what they want or are they following an outdated tradition? Who will update the tradition?

Nature should win outside of the city. Perhaps what bothers me most about suburbia spreading into the countryside is that in suburbia neither form nor nature wins. Perhaps the street patterns and traffic organization wins.
It makes a big difference what can be seen in one's cone of vision. If you can see enough houses to recognize the dominance of an organization along a road and imposed distance between buildings the overall form is a regular pattern not the singular identifiable form in the landscape.
Land Use Attitude:

In standard subdivision land is "used-up." Subdivision is not respectful of the past or present use and beauty of the landscape.

Cluster development is a way to respect the land, to develop it in a mutually beneficial manor. (This is not an American tradition. It is more European, as Europe has had less open space to play with. We are no longer a frontier society, at least not in New England.) It has become a legally viable alternative in zoning. Often though the "single-family detached" home is still the undercurrent, still the desirable end. This is a cultural phenomenon (with its history in the American frontier mentality: space to burn).
... much agricultural land could be preserved if farmers went into partnership with builders rather than selling out to them. "The flat uplands would be used for farming, ... sloped land and land near rivers, hard for tractors to maneuver in but desirable for housing, could be developed.\(^5\)

I see this cooperation offering a respect for the landscape; progress and preservation, hand in hand. Rather than capitalizing on the whole land parcel, cashing in only some of it and continuing to farm the rest (perhaps even self-sustaining). This would take a sensitive builder and a progressive farmer. An experiment initiated by the farmer who would like to see his land and other farmland preserved in cooperation with inevitable development. This is a mutually beneficial development proposal.
Personal Views:

My vision in this thesis is of a way of life. "The driving force in the design was not the realization of a particular architectural vision. Rather the architecture serves the end of supporting a particular vision of life." (from Nashaquisett Flier, Linea 5, Inc.)

I see an environment which supports a way of life for a community of individuals, families, young and old, of varied means. It is connected more closely than a neighborhood, yet a few steps removed from a commune. The common bond is practical, social and environmental. Living is more economical when household services are shared (i.e., laundry facilities, bulk dry goods, child care etc.). Socially, people are not isolated in their homes when they share common walls or entry courts. There is more opportunity for interaction both by proximity and through community association. The physical environment is richer for the open space and woodlands preserved. The intensification of form in the design reflects the collective of which the individual is a part.
The form chosen to support the collective spirit is the New England farm. The cluster of buildings comprising the farm is a recognizable collective form, yet the buildings themselves are distinctive as individual pieces of the whole. They vary in size and shape, some attached, some free standing. Some are directly reused as housing, others must be modified to suit residential needs and dimensions. The most important point being that they add to be a recognizable unified form, while retaining their individuality (both buildings and inhabitants). The whole is greater than the sum of its parts and yet the parts are distinctive within the collective whole.

The New England farm historically has been a mixed-use establishment. Although generally operated by a single family, there were often hired hands and extended family members under one roof. For those who lived on a farm the industry be it agricultural or small scale manufacturing was a collective effort. The forms that make up the farm reflect that common effort.
One problem with the "preservation of form" notion is the fact that even a traditional form continues to evolve. It is not frozen in time as it is when it becomes a preserved or "pickled" form. How can I avoid this frozen quality found in historic villages. I think you need to look at the roots of the form and work with them, not trying to replicate the form exactly but the principles that created it in the first place.

In the reinterpreted farm the new buildings would have associations with past use. A resident would describe his home an "in the barn" or "the small house out back." The association with farm labels might fade over time but the distinctly different forms would remain.
The distinctiveness of form came about by the demands of the original use. This is a clue to designing anew. Why not design a unified form reflecting a use and inhabit it with a standard use. If housing were always an expression of residential use, it would all become quite similar as it has in the suburbs. The styles on the outside are needed to differentiate. Habitation can happen anywhere. Certain dimensions make it most efficient, yet people can live in any type of structure. What makes the structure a home is "its sense of place" which is a given in an old structure.

The question is whether that "sense of place" can be generated by a new structure in a recognizable form. The form is preserved both as an individual structure and in relationship to the collection of structures. Yet it is new, not a replica, but a new structure in an old form. It is not a literal form but a recognizable form. The form by association has meaning and a sense of place yet it is clearly changed and transformed by its new use, housing.
It is interesting that there has for several years been a trend of putting housing into structures that were never intended for housing, for example housing in old school buildings, in old churches, in old mill buildings. Lofts in factories. It is perhaps part of a trend that started in the 1970's with the rehabilitation of American inner cities. Restaurants in old factories, shopping centers in old fish markets, night clubs in railroad cars, movie theatres in old concert halls. Even to the point where there are new buildings that are designed with that rustic look, but the use is not really rustic at all. But there is of course the historic perspective of the dwellings in the Roman aqueducts, in the palace in Split, in many of the ancient Roman amphitheaters. The mansions of yesteryear became the rooming houses of later years and the condos of today.

People like the symbols, the styles associated with the symbols. We adapt the space to meet our needs regardless of the associations in our minds.

A human settlement is a place in the mind. In both instances the images we have are social products... [we need] to test the myth [of the American Dream] against life.
Housing doesn't have to look like housing. It has to do with how people identify with it. People would like to identify with the barn, and the farm as a whole; it has positive associations. How many people can live behind the guise of one identifiable form? How closely must they be associated to share the image of "home?" Can they be as unrelated as neighbors on a suburban street? Would the unified form which is shared bring unrelated people closer together? Would more neighborly people choose to live there creating a closer community? With these questions in mind I turn now to the general intention of the thesis design.
DESIGN INTENT

Development Proposal:

The major goal of this project is to adapt the form of a New England farm (made up of connected buildings and detached buildings) and reinhabit them with new uses: multi-family residences, cooperative amenities and home business/cottage industries. This project would be carried out by Dartmouth College (and affiliated patrons) for the academic community in conjunction with a local farmer.
In order to develop the transformed farm a program was derived to fit the new use. A housing situation for new and visiting faculty of the nearby college is proposed. The project would offer both attached and detached housing with common spaces such as a larger gathering space and kitchen, children's play area and laundry, as well as rentable workshop spaces and guest rooms.

Primarily this is providing housing for non-traditional families which are increasingly becoming the norm today. The busy academic couple with children, the working single mother, the retired professor, a group of graduate students (who may help with grounds maintenance), the administrator who lives with an artist, or the visiting professor and her family (and pets!) - these are some of the potential residents who would be served by this project.

The complex of the farm suits a progressive lifestyle in which some childcare is shared and there are common meals for those who wish to partake in them. Group participation is not required but the design of the physical environment encourages interaction. While the standard housing options of single family homes and apartments are also available in the area, this project offers more social supports especially for faculty visiting from foreign countries which makes it an attractive alternative.
It may be argued that this complex without its common gathering space could be inhabited by unrelated, unaffiliated families, yet this might defeat the collective nature of the form.

The question that I am exploring is: "How can an architectural design help people act as community members? What form should it take?"

There are two premises that are important to the choice of the farm as a formal model for this project. The premises are:

1. Open space (i.e., farmland) needs to be preserved.
2. The collective form of the farm is desirable in relation to the landscape.

These premises led me to work with the dynamics of open space and intensity of form.
The problem with many rural townhouse developments is that they are monotonous—one after another, row after row infringing on the landscape.

Suburbia has a rhythm like many same-sized stones arranged in rows in a field. My project is like a variety of differently sized stones clustered together amidst an open field.

What's needed is the size variation of the estate or the farm, where different uses demanded different sizes for containment and shelter. A farm on the landscape has a much different impact than a ski village or new condo project. The idea is not to make everything look like a farm, but to take elements and make them into a collective form as opposed to small repetitive pieces.
The distinctly different use/sizes of a farm can reflect new use by different types of families. In suburbia every home is the same, typologically speaking, though they may be different stylistically.

In my design, from the barn to the smallest outbuilding, the individual structures would be subservient to the overall conception and impact of the collective form on the landscape. The barn is the most difficult, for multi-family housing. The rest of the farm buildings could be domesticated quite easily. The farmhouse subdivides, the chickencoop is of domestic scale with a few additions, the carriagehouse (now quite fashionable for housing in the city as a second house on a lot), but the barn poses the biggest problem. As a single family residence it has been done many times over, but as multi-family? Can the barn retain its integrity as a form when inhabited by more than one family or will it become an apartment building?
How to suggest high density living amid much open space? We need a "conservationist" sensibility (as opposed to a frontier mentality). We must realize that it's no longer "countryside" when it's subdivided.
One of the primary objectives of setting up this typology of inhabiting existing or recognizable forms with a new use was how to deal with the use of adjacent land. To provide private outdoor space, not necessarily yards, but "rooms" outside, preferably at grade for each unit. It is an extension of the private territory into the landscape. As densities rise to suburban numbers, packing occurs and fences start to define territories.

In the farm model buildings are small in relation to the scale of open land around; large fenced in areas reflect use. We like the agricultural use of the land, it is a natural connection to the earth, a give and take with nature.

A farm is a mixed-use complex. I'm inhabiting it with different uses, perhaps with less variety than in the production and working process of farming. Still I hope to achieve the variety of sizes and forms because dwelling can happen in different forms. In fact people enjoy living in distinctively different forms.
Trees

Trees in stands are families
farmed that way by accident or design.
Defined by meadow, they wear
the shape of some man's hand.

The pasture pine, a volunteer,
wrenches itself upward unprotected.
It is a weathervane.
It is the one that ruptures stonewalls.

by Linda McCarriston

Meditation

What is it that makes a "family of forms"?
- materials
- shapes (pitch of the roof)
- similarities among buildings
  of different sizes
- rules implicit in vernacular
  explicit in Architecture

Meditation

The touch of the hand
The clarity of material
With this thesis titled: "Preserving a Form" I must be true to what the form really is, and that is not a European courtyard farm. Nor is it a Sea Ranch condominium. Though there is a local reference in the Shaker farm, with its big common yards, that one was the hardest to privatize.

To sum up this critical discovery.

What is it that connects the farm buildings?
- a short string between the kitchen door and the barn door.
- an enclosed passageway between the kitchen and the barn.

Reinterpretation:
- a short string between living and working, living and car
- enclosed passage to and from work, to and from car

Meditation

Cars are not the enemy! (Perhaps their exhaust is but that will be remedied before people give up the idea of fast transport at the will of the individual.)
Summary:

It is often said that "every man's home is his castle", at least in America. Thus the American suburban landscape is dotted with little pseudo-castles. But people are only fooling themselves to think that they have their own castle in the form of an attached townhouse, or a suburban tract house. Why not live together in a real castle? Why not live in a distinct, collective form that has real character and positive associations?
References play an important role in the design exploration process. There are three references which were influential in developing this thesis. The first is a monastery in Belgium by Lucien Kroll. The second is The Sea Ranch in California by Charles Moore (MLTW). The final of these inspirational references is the town hall at Saynatsalo, Finland by Alvar Aalto.

After the selection of a site in New England two contextual references were also explored. These are the New England farm and the Shaker village.

As farm models are central to my design concept, two other important references were, *Landscape and Form: Observation and Transformation of Farm Form* an architectural master's thesis by Denise Henrich and *Big House, Little House, Back House, Barn* by Thomas Hubka. Henrich's thesis analyzes five farm references, four of which were closely related to the preliminary inspirational references mentioned above.

Hubka's book documents the connected farm buildings of New England. I am building upon the previous analytic work by Henrich and Hubka, putting my emphasis on synthesis in design rather than analysis and documentation.
Inspirational References:

While exploring the notion of "critical density" which amasses into identifiable form, I came across the image of a monastery in Belgium by Lucien Kroll. This has proven to be a guiding reference throughout my exploration of recognizable form. An existing courtyard farm, now an island of the past in the sea of a suburban subdivision, has been transformed into a Dominican monastery, parish church and public library. New and old construction stand side by side. The old barn, now the chapel, is a symbol of the past. The barnyard is now a public courtyard.
In Lucien Kroll's Dominican monastery I recognize the strength of the farm as a collective symbol. The courtyard farm with a path moving through it spoke to me of common ground. I later recognized the pass-through courtyard diagram was not appropriate in the open landscape of the New England context. The program fit the form and where it did not Kroll made adjustments (i.e., the guest housing terraces which cascade outward where once there was a bare wall). His interventions were in a new vocabulary which is powerful but does not overshadow the integrity of the whole. New elements are playful (in the library corner and in the chapel skylight). Perhaps not entirely respectful of the existing structure
but complementary. They clearly read as new, not replicating or imitating the old. In fact, this clear distinction between the new and the old was what initially intrigued me about this work.

Both the courtyard and the barn, elements which give the monastery its "critical density," lead me to another reference in Sea Ranch by Charles Moore in California. Here the courtyard is private, sheltering entries and outdoor spaces from the coastal winds. The barnlike qualities are in materials, volumes, and construction techniques rather than literal form. This project is all new construction with recognizable elements as opposed to the Kroll monastery where there are distinctly old versus new elements side by side.

Sea Ranch was primarily a reference for site planning though I realized after further study it had much more to offer. The original site plan was designed to retain the character of the coastal landscape. It was organized in clusters rather than subdivided. Each cluster of buildings (paired with a hedgerow) would become an element in the greater landscape. In this I recognized a critical mass which is needed to respond to the vastness of the landscape. If the preservation of an open landscape is important (as is it in farmland) it must be preserved as an unbroken expanse. The form of the clustered buildings has enough mass to stand in that expanse, where a single house is overwhelmed and scattered houses start to litter the expanse.
(although they can be absorbed into the wooded portion quite nicely without negative impact).

As I focused more on the barn in my design I read more into the "Sea Ranch Vernacular." I recognized many elements of barns in the Sea Ranch materials, structure and massing. The sheer vertical siding punched with few openings, the timber frame cross bracing (oversized, though it is) against the coastal winds, the tall vertical volume are all reminiscent of barns.
Saynatsalo town hall by Aalto became another influential reference. Although it is not residential nor agricultural, it is a community center. As a public building it has a courtyard diagram similar to Kroll's monastery and Sea Ranch's condominium. The large volume of the meeting space is comparable to Kroll's chapel/barn. The library and offices are similar to the Kroll program with shops but no residential units. This complex is prominently sited atop a hill with a village below.
I recognize in Aalto’s town hall an architectonic treatment of siting the complex into the hill with the stairs to the court acting as an architectural hill with shops as a base. Also the function of the large volume as a part of the whole became important in my work with the New England barn. It’s materials are not farm like, but the volume of the meeting hall is comparable to a barn juxtaposed to the smaller scale elements with a new technology of construction. Aalto’s vocabulary is very different from the New England vernacular, yet these architectural principles were implemented in my reinterpretation of the farm.
These references are not directly related to the form of the New England farm. Yet in each I found important principles to be reinterpreted in the context of New England.

Henrick's thesis acts as a bridge from the inspirational references to the contextual ones. Her analysis of two European farms, the New England connected farm and a Shaker farm demonstrates the continuum from the closed courtyard form found in Kroll's monastery to the open field organization of the Shaker farm.

Hubka's in depth study of the New England farm served as the back bone of my farm model. I am building on the analysis in each of these references in my design proposal.
In the record of building history few buildings have accommodated change and survived as successfully as the nineteenth century New England barn. ... [it] persisted and even prospered because good original design decisions have proven remarkably adaptable and successful.
Meditation #21

Ell's: define space
change direction primary to secondary
"pi" off
make corners
The landscape move is an "ell."
This move should be evident in the part and the whole.
Mending Wall

Something there is that doesn't love a wall,
That sends the frozen-ground-swell under it
And spills the upper boulders in the sun,
And makes gaps even two can pass abreast.
The work of hunters is another thing:
I have come after them and made repair
Where they have left not one stone on stone,
But they would have the rabbit out of hiding,
To please the yelping dogs. The gaps I mean,
No one has seen them made or heard them made,
But at spring mending-time we find them there.
I let my neighbor know beyond the hill;
And on a day we meet to walk the line
And set the wall between us once again.
We keep the wall between us as we go.
To each the boulders that have fallen to each.
And some are loaves and some are nearly balls
We have to use a spell to make them balance:
'Say where you are until our backs are turned!
We wear our fingers rough with handling them.
Oh, just another kind of outdoor game,
One on a side. It comes to little more:
There is where it is we do not need the wall:
He is all pine and I am apple orchard.
My apple trees will never get across
And eat the cones under his pines, I tell him.
He only says, 'Good fences make good neighbors.'
Spring is the mischief in me, and I wonder
If I could put a notion in his head:
'Why do they make good neighbors? Isn't it
Where there are cows? But here there are no cows.
Before I built a wall I'd ask to know
What I was walling in or walling out,
And to whom I was like to give offence.
Something there is that doesn't love a wall,
That wants it down.' I could say 'Elves' to him,
But it's not elves exactly, and I'd rather
He said it for himself. I see him there
Bringing a stone grasped firmly by the top
In each hand, like an old-stone savage armed.
He moves in darkness as it seems to me,
Not of woods only and the shade of trees.
He will not go behind his father's saying,
And he likes having thought of it so well
He says again, 'Good fences make good neighbors.'

by Robert Frost 1914

The stone wall is man's first intervention- clearing of the land.
The trees were left or planted along the stone wall- nature and
man define the landscape.
DESIGN EXPLANATION

Introduction:

The design itself is based on New England farm models. It is located in a generic rural area outside of Hanover, New Hampshire. The design, composed of 5 general building types is presented on a specific site. The specifics of the site are used to demonstrate the use of the building types; they could be implemented on any rural site, as could a working farm. Though the design is not site specific, orientation to the sun and in respect to the topography is critical in site planning guidelines.
Composite Site:

The approach to selecting specifics for this project started with the desire to implement a vision based on an alternative way of living. Therefore the specific site context is less important to this thesis than the understanding and use of the farm as a model. Nevertheless, to explore the vision more fully it must have a place to touch ground and so a composite site was derived in rural New Hampshire that represents many typical qualities of farmland in New England.
The site was composed of a primary site on the outskirts of Hanover, New Hampshire with 50 acres of overgrown farmland that is slated for subdivision and development. Other alternative sites were researched in the Upper Connecticut River Valley and from those sites several elements were compiled. In particular, the buildings from alternative sites were taken and superimposed on the primary site in similar orientations and with similar spatial relationships as their original locations.

Essentially what has been done in this thesis is to take a raw site, transpose farm buildings onto the site, and add new buildings in the same clustered or linked way that they might have occurred on a working farm.
Program:

Residential - 42 units of housing arranged in a site plan based on New England agricultural traditions. (For comparison, the primary site was originally slated for subdivision and development of 50 tract houses.)

Non-Residential Uses - Common buildings and workshop/office space have been added to the residential program. For the sake of experimentation the issue of residential zoning has been waved. What would be needed is cluster housing or Planned Unit Development (PUD) zoning.

Building Types:

The buildings collected from alternative sites were the basis from which 5 building types were derived. These five types represent a range of sizes found in farm buildings. The barn is the largest, followed by the wagon shed (or carriagehouse), the farmhouse, the stable, down to the chicken coop and other small outbuildings. Collectively and in relationship to one another, these buildings make up the recognizable identifiable form, the New England farm.

Of these collected elements, the barn allows for a larger order without complexity. As a form it is simple and honest, whether standing alone or imbedded into a string of connected buildings.
Can this collective form be reused by a less simple, more complex inhabitation? Can people inhabit a barn: a) without destroying the recognition of the form and b) maintaining the simplicity?

The rest of the farm buildings could be domesticated quite easily. The farmhouse subdivides, the chicken coop is of domestic scale with a few additions, the carriagehouse (now quite fashionable for housing in the city as a second house on a single lot), but the barn poses the biggest problem. As a single family residence it has been done many times over with modifications, but as multi-family? Can the barn retain its integrity as a form when inhabited by more than one family or will it become an apartment building?

Typology: The Buildings (with a range of use/sizes)
- Barn
- Wagon Shed
- Farmhouse
- Stable
- Chicken Coop, Ice House, and other out buildings
a. Loft for extra storage  
b. Hay mows  
c. Cows' other h mieszka  
d. Wagon drive & threshing floor  
e. Mows for strong hay  
g. Grain & other storage  
f. Feeding passage  
g. Manure basement
Scheme B
Farmhouse

Wagon Shed
Stable

Chicken Coop
The dooryard is probably best understood as a working porch for the active farm. More than just a place of work, it was the place to meet neighbors and talk, a place to leave from and come back to; it was the outside center of the farm in much the same way as the kitchen was the inside center. Even today the combination of the kitchen and its dooryard provides a spatial and experiential focus to life on the family farm, just as it did over a century ago.
Meditation #28

I had a discovery today! The New England farm is a collective form centered primarily on use patterns. Spatial patterns are a product of the use patterns. Like the string holding a strand of beads together, the path of the farmer, his wife, children, farmhands follow from the kitchen door to the barn across the road or through the connected buildings. A short string at that, to save steps!

What I am taking from the farm is the spatial organization (generated by original use) and reinhabiting it with a different use while maintaining the overall connectedness of the complex.

The farm is "a place of activity" where neighbors would feel comfortable wandering over to visit, knowing someone would be around. It is oriented along a road. Identifiable as a complex of buildings, connected by that invisible string or thread (if not a visible rut worn into the ground by pedestrian traffic), the path!

The old adage form follows function holds truth, but I started with the form and worked backwards, discovering what generated the form in the first place by trying to recreate it and then transform it.
What was happening:

I would draw "a farm" thinking of private outdoor space and public "barnyard" space, but the collection of buildings would not look like a farm (even though they had the range of sizes).

Then I would draw them according to how they sit in the topography and again they would not look like a farm. These spatial relationships were wrong!

When I oriented them to the sun, that was better.

When I thought of walking from one to another with farm chores in mind that worked much better. The grouping was starting to look like a farm! Here I've been fighting what the form wanted to say.
**Typology: The Barnyard**
(centering space)

The area defined by the string of connected buildings around which outbuildings are arranged, at once open and closed to the landscape beyond. The path is the thread which holds the forms together. The Collective form is generated by the use of the buildings as a working farm. I claim that the form generated by a use other than housing can be reused as housing with a more desirable relationship to the landscape than housing generated forms (ie. a condo village). This is not dishonesty. It is simply taking the form first and then the use.
Site Plan:

As a farm is laid out
With open fields dominating
Which are laid out in right-angles for plowing
Buildings front onto the road
(or face south)
Cluster of built form is like a farm
Critical distance between clusters
to maintain the sense of rural countryside
allow only a few "farms" to be visible at one time

Buildings nose into the slope
with walk out basements
"L" & "U" shaped foundations
Buildings are grouped as in a working farm.
Some are attached and define space;
they make closed corners.
Some are detached but still oriented about places of activity.
Some are outbuildings standing apart from the central mass.
They are all connected by the pathway of activity/access,
both interior and exterior.
Typology: The Farm (imposing form)

An arrangement of buildings giving a sense of definition to the landscape immediately adjacent and claiming/having a sphere of influence on the landscape as well as opening out to the landscape.
How do we reuse a symbolic form to fit our current way of living? Do we save the shell as a symbol and gut the inside as Kroll did in his monastery? Save some of the inside but punch new openings and expose what used to be hidden? What is the essence we want to save?

One approach I see is in a transformation of the form as in Sea Ranch. Interestingly, Sea Ranch was not mimicking any form. It simply responded to the elements with the idea of a collective, sheltering form and voila there is something of a barn or farm. We recognize a connection to an old form, through materials and organization, though it could be rehatted and used much differently.

Meditation #5

Shutters. Shutters were once functional. Today, thanks to modern technology with thermal seals and interior blinds around windows, they are unnecessary. But they remain as a decorative and symbolic item on "contemporary colonial" homes (even in Japan)!

Awnings. They are used in contemporary design more, as are sun screens. They are on the same level of detail as shutters.

Paolo Soleri calls them "garment architecture."
Meditation #20

Man's suit front, lapels and tie are like traditional New England house elevation. The image becomes a stylized version of what was once functional (the lapels like shutters). There are other examples in clothing and shoes. These styles change quicker than architectural styles.

People look for something they understand. They give meaning to form (symbols).

Today we live within the symbol, but break out of the old spatial patterns when renovating, by opening up the space in the rear of a house so we leave the image and formality of the front intact (sometimes to the extent of closing off the front door completely, as can be observed in New Hampshire and Vermont where the steps leading to the front doors often have been removed and people enter from the kitchen, side door.)
Proportional Study
Chicken Coop:
The Barn:
Meditation #26

The qualities of a barn.

Interior:
The expansive volume of the haymows, coolness and darkness pierced by tiny cracks of light, or a gentle glow from above. The thinness of the shell that protects from the elements. The strength of the cross bracing and framework against the wind and weight of a fully stocked barn. The smell of the hay, the animals. The sound of the wind, the drafts, the swallows twittering in the rafters, the muffled quality of sound absorbed by bales of hay stacked high, the feeling of it under your feet.
In disrepair, there is an element of decay, weathering against the harsh climate and time.

What can be retained? What must be transformed to make it habitable by people, not only animals with coats of fur to insulate against the drafts.

Exterior:

The barn in the landscape, in the farm cluster (family), standing monumentally in scale, simplicity of form, singly or as the largest form imbedded in a connected building chain).

The shell is thin from the outside too, deflected as the structure sags or as it's used. It isn't solid, it is a cover.

Need to:

- save openness within the barn to express the vastness of the volume
- keep structure exposed
- not domesticate but maintain the roughness and simplicity
- keep the idea of storage, of stacked parcels (rooms, not hay)
- under the sheltering roof
- keep the sense of the shell by pulling away from it
Meditation #30

Gravity!

The hill, the barn, the cycle down and through.
The plateau and stairs, architectural transformation of the hill
In Saynatsalo, Aalto's stairs "street up" and through
Keep what is necessary in relation to the hill
Meditation #19

Stacking units are like stacking hay inside the frame of the barn. The hay is self-stable, standing on its own within the superstructure.

Set into the hill, the barn can be entered at different levels.

There are doors on all levels and some in the air, to load the hay from above.
Elevation Study
East Elevation
North Elevation
North Elevation
First Floor Plan
Third Floor Plan
Meditation #25

If my units are like hay stacked in the barn then the framework of the barn is like a tree and the units are nests among the branches. The whole wins over the individual nests, yet within each nest is a very special, private, individual world!

From the form of the farm a certain organizing principle extends. Areas are fenced off, but not equally - they are varied, as are the types of animals to be contained. When converted to housing, people are the "animals" - all asking for equality of space, thus the rhythm. (N.B. Also "privacy")
Yet there are repeated elements, ie. horse stalls and chicken coops, pig styes, cow mews- but the whole is unified. Each horse needs not his/her own "style" but can be housed under one roof. There are rhythms on the smaller scale than the building rather than the building itself.

Look at Henrich's references in terms of outdoor spaces and potential privatization:
French - enclosed court, private Italian - court opens onto greater landscape New England - court adjacent to greater landscape Shakers - open courts no need for private yards Minnesota - interlocks with greater landscape
Meditation #10

The Suburban home with a private yard.
The front yard is ceremonial for the formal entrance. The landscape is controlled.
The side yard is a buffer zone for privacy between houses.
The backyard is a private outdoor living space.

The farm with its barnyard, animal pens and fields beyond. There is a connection to the greater landscape which is lost in the even distribution of suburbanization.

I need to interlock these in my thesis.

The outdoor space must be used to its best advantage as is the side yard in zero lot line development. Here there is no buffer zone.

This thesis is putting medium density housing in a rural area to save open farmland from suburban development. This suggests higher density living amid much open space.

To live in this setting one needs a "conservationist" sensibility (as opposed to a frontier/ "space to burn" mentality). People must realize that it's no longer "the country" when it's subdivided. This understanding is prevalent in European countries, as they ran out of wilderness long ago.
Meditation #6

Seeing the bigger picture, beyond your site boundaries, beyond your building's edges.
DESIGN CRITIQUE

There are five points I would like to highlight after this study of the New England farm for multi-family housing. The first is, on the site scale, the desirability of adjacent conservation land in order to maintain the rural character while creating clustered density.

Secondly, the range of sizes works best when extremes are situated next to each other. When there is a gradation from the largest to the smallest the punctuation of the small scale is lost.

The third point is similar. The small out buildings play a major role in the identifiable form of the farm. While the chicken coop could accommodate housing, some of the smaller sheds could not. To maintain the farm overall the small buildings must be made justifiable as garages or workshops.
At the other end of the spectrum, the forth point is about the barn. As it is a large scale structure the large volumes must be apparent to maintain the barn's integrity. This is not an efficient use of space. In a rehab that is alright. In new construction it is not cost effective unless inexpensive materials are chosen at the onset with large volumes and surface areas in mind. If this attitude is taken early on it can allow for more spatial flexibility in design and living.

The final point is on materials. In the transformation of the New England farm new materials need to be introduced at all scales complimenting the older traditional materials. This gives the structures and inhabitants a sense of belonging to a greater whole or family of the farm.
CONCLUSION

This thesis is the first step in a transformational process. Working with existing forms and relationships, altering them to enable domestic function (both within and without). Beyond the scope of this work is a transformation from existing forms to new forms which carry the principles of the farm into a new language of form. The transformed farm, like Sea Ranch, would not be the preservation of an existing form. The result would be indebted to its sources but not as clearly recognizable as the reinterpreted farm presented in this document. The transformed farm would be entirely new. It would be a different place without direct associations with the past. I have proposed this alternative with one foot in the past because I believe there is something sacred there which cannot be created anew. It is the element of time which is bestowed by endurance and acceptance, usefulness and adaptability. A worthy building is graced with renewed life when it withstands the test of time.
My Barn

Look there!
   It stands today
As strong as six-score memoried years ago;
A big barn built to hold fat crops in its massive mows,
As provender to last the long rows of sleek cows,
In the stables underneath,
The long dark winter through.
   Examine, if you will,
These giant plates and beams,
These stalwart loins and limbs and thighs.
Each one was once upon a splendid time
A giant pine
Singing a hundred feet towards the skies,
Then topped to sixty feet of needed length,
Hewed from the round to fourteen inches square.
   See there!
The marks of hewing axe and adze,
Swung straight and true.
   Read there the tale
Of toil and sweat and a fine pride
In shaping these great timbers.
Stand with me

A wondrous moment.

In that crafted tree
Is history enough of old great-grandsire times
A century ago and more.

Those sheathing boards,
Those tenons, mortices and dowels,
Those thews and sinews,
Those mitres bevelled true,
Fitted in tight embrace to fight the winds
And the strong side-thrust of the sheaves and hay.
There stands my barn!

Monument to the past!
Feast for the present!
Song for the future!

by Dean Hughes
Dimetredon:
3/20/89

Dimetredon is a collective living arrangement in Warren Vermont. It was started by a couple of architectural students in the early 1970's as an experimental alternative energy and living situation. The form is based on a solar heating system and the fundamental idea that they all live within one structural (and mechanical) system, in one building. The giant box beam trusses give the overriding form of the complex with units "infilling" in the bays (16') between the trusses. The south face is a steep pitched roof of solar panels (uphill), the north is a shallow pitched roof in which dormers pop out. Each unit has two exposures and 2 party walls
for energy efficiency. Dimetredon is owned jointly as a condominium association.

Socially, the place has changed over time as the residents needs evolved. Initially it was very much a commune; every thing was shared ("and I mean everything!" said one resident). They all lived on the floor of the first section of the complex (a 24' bay) now known as the community building while the rest of the building was under construction. The infill of units were designed by its inhabitants with an eclectic originality of design (although the box beams were to be exposed so there would be that continuity in the form as a whole.)

Through time less has been shared or communal. The common vegetable garden is now divided into family plots. (The other item which was begun as common property but abandoned was vehicles, "vehicles are very difficult to share.") There is still a greater connection between the residents of different families. They are closer than neighbors. They share maintenance responsibilities like stoking the wood burning boiler and still have a potluck dinner the first Sunday of each month. There is an intercom system between units for babysitting, also common basement (including laundry) and decks.

In fact the "courtyard" or deck onto which all entries face is
essential in terms of daily contact between residents as is the parking lot just below. A drawback to this system is the verticality of the design (the parking lots are down one and two levels from the living spaces/all entries are one full story above the parking and each unit is 16' wide and 40' tall). "The closer the car to the door the better, because there is so much loading and unloading," commented a resident. They have no private back yards but share the garden and meadow views.

With only five families, decision making and common design efforts work well. This would not be possible with more than eight families, according to Jim, a resident with whom I spoke. As it were, it takes a lot of discussion to agree on anything as a group.

Jim looks forward to building his own place, where he can make all the decisions himself. He owns some land on Prickly Mountain and plans to maintain a close connection with Dimetredon.

Which brings me to the make up of the group. They were friends with a shared vision of an alternative way to live, more efficiently ecologically and maintenance wise. They are very individualistic in expression (as is apparent in the variation of infill elevation of the different units, imbedded in the common framework of the box truss). Two residents are architects, one an inventor, others: a nurse, a school teacher. They got together collectively to express their uniqueness as a group of individuals.

Over the years they have become increasingly more private, as children entered the picture and families became prominent. They very much have their own home within the framework of the larger structure, both physically and socially. They also belong to a neighborhood association known as Prickly Mountain (of which Dimetredon makes up 25%), which is part of the town of Warren, part of the county and of the state of Vermont. There is a continuum here from the individual to the town to the state which is bridged by the community and close neighborhood association.
In 1973 a group of people from the Old Cambridge Baptist church started a group-living cooperative in Cambridge, Massachusetts. They went in on a 12 unit apartment building together, owning it cooperatively (having also looked into a series of triple deckers which were out of their range of affordability.)

After 16 years a number of the original occupants still live here, though there has been a shuffling of spaces over the years. The average age is now 43. Children have grown up here. There have been marriages and divorces. At the beginning the group was mainly young professional couples some with small children and a few singles, all liberally minded. There was talk of a "commune" but when it came time to put up money for the purchase those who were really interested in investing (when push came to shove) really wanted a more private arrangement than was offered in a more common/shared living situation. So an apartment building was desirable over an old convent in terms of privacy though outdoor space was less than would have been in three triple deckers.

Physically, many changes have occurred. One common change most notably was the conversion of an exterior back stair into decks. The back stair was in the early years an active place. People stopped to chat, a place to "cross paths" often used more than the interior front stairs. (The back stair offered more direct access to and from parking.) Over the years people began to put up blinds to screen windows from the heavy traffic and activity on the outside stairs. Today a backdoor has been installed so that direct access from parking to the main, interior stairs is possible (a kitchen was relocated to make this connection). The same social interchange is possible on the main stairs, with out disturbing people on the back/more private side of their units. The exterior area of the old stair is now given over to individual floors as a shared deck between two or among 3 units. (Interestingly enough, a window has been punched between a kitchen and the interior stair making a
connection between access and private living space that was lost on the back side when the decks were built. The Wallaces thought more windows between units and the main hall and stairs would be desirable to allow more visual connections!?)

An interesting aside is that many people living at Common Place have summer or vacation homes. These second homes are an outlet for them. Living "in community" is demanding and requires a lot of "tolerance." It is nice for residents to be able to get away, to have a place they can keep as they please without community discussion. "When you own property together there is a commitment to work things out," remarked one resident. This is an element of "intentional community" living.

Common Place has an "extended family" of other church members who participate in events such as retreats and gatherings but who live "off site." They miss out on the day to day interchange and shared "trust" in childcare and household living, the "permeable feeling of actually living there, with kids flowing in and out of units."

The first thing to be done to convert the building into a common building was to redo the backyard for a children's play area and gardens (removing asphalt that covered the entire yard previously). And to put in a "common room" (like a rec-room) which could be used for parties and for indoor play alternately. A study (tv/storage/extra bedroom) is off the common room as well. There is a common shop (though hard to maintain) and laundry rooms (a place where much interaction happens!)
Cohousing:

"Cohousing" is a term coined by two American architects who studied this alternative housing type in Denmark. In a cohousing community there is a common space with dining and kitchen facilities as well as other common functions (i.e. playroom, laundry, etc.) Each residential unit is a private home within the community. The communities studied vary in size from 6-33 families. Aside from shared meals, 1-6 per week depending on the community. There are also shared child supervision and grounds maintenance. There are also shared child supervision and outdoor maintenance. Many residents know each other before living in a cohousing community or get to know one another in the planning process. An element of residents participation is essential in the planning process. In Denmark this is a desirable alternative to single family because of the economical and social benefits - from time saved on maintenance chores to more time spent with children. It is an ideal situation for working parents, especially single parents.

Some cohousing communities are like small villages, others like extended family compounds, some urban, others rural. The type is a social arrangement which can take on many different physical forms. The most important element is that of a shared living experience beyond that of the nuclear family especially related to childcare and shared meals.

An important distinction from communal living is the recognition of the individual family unit and privacy of the residential units within the community. For the most part the common bond is not ideological but based on a desire for the neighborhood or extended family which is so often lost in our contemporary society.

Socially, cohousing is a closely knit neighborhood with shared outdoor common spaces and indoor gathering places. As with the two American communities discussed in this appendix (both of which fall under the general category of cohousing) the effort of common ownership is rewarded by the support of a community; the benefits outweigh the disadvantages for those who chose this alternative.
ENDNOTES


2. ibid. p. 504.


4. ibid. p.17.


9. ibid., p.77.


