Infilling the Middle Landscape:
Suburban zoning codes to retain historical place making forms

by
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JUL 25 1995
to John H. Howe

John Howe with Mr. Wright in the Taliesin West Drafting room. (Tafel 1979)

Title page: Details of Riverside, Illinois. From a 19th century promotional brochure. (Fabos 1988)
I was fortunate enough to grow up in the Mason City, Iowa neighborhood planned by Walter Burley Griffin. Rock Crest/Rock Glen is the most complete example of Prairie School planning extant. Nearly a dozen houses by Griffin, Frank Lloyd Wright, William Drummond and Barry Byrne were built between 1910 and 1916. At Mason City and in his unrealized plan for Trier Center, Winnetka, Illinois, Griffin contributed a neighborhood design methodology which addressed the site in its totality and integrated the use, materials and methods of construction. The result is a place of unusual vitality and beauty, one which realizes the potential of the built landscape to contribute to the public realm as well as the private. The houses built by Griffin and his contemporaries, rather than being an end in themselves, become one of the means to achieve a larger sense of place. In Griffin's words, "land in this sense is accorded the respect due to a highly developed and perfected living organism, not to be exterminated nor treated as dead material, or as a mere section of the map." The influence of this place on me was subliminal but powerful.

In 1973, at the age of 24, I met John Howe. What luck. "Jack" had been one of the original apprentices at Taliesin in 1932. He grew up in Evanston,
Illinois. Griffin had redesigned two houses for Howe's uncle. John had done the drawings for the Alvin Miller house, a late Usonian at Charles City, Iowa that had mesmerized me as a child. There could not have been a more perfect client-architect relationship. Over the next fifteen years John designed three houses for my family. I learned how to build. I admired the process of design and made suggestions as I matured in my taste and conviction. However, my most vivid recollection of my relationship with John is one I have never shared with him. The wait for drawings for the first house John did for us was interminable. When I could stand it no longer, I snuck around to the window of his office to see if "our" plans were on the drawing board. They were, and they were wonderful. At that moment, the process began which brought me to the profession of architecture twenty years later.

"The land is the beginning of architecture". John Howe told me that this is his inspiration, the principal of his architecture. It was clearly Griffin's inspiration. It is my thesis.

Charlestown, December 1, 1994
Acknowledgments

To

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Tom Chastain: "it's not just a postcard".
Maurice Smith: "wrong".
Fernando Domeyko: for explaining what was "wrong".

Thank You

Dad, for freedom.
Sons, Gardiner and Coleman, for joy.
Angela, for life

The Schneider House by Griffin, 1915. Completed after his departure for Canberra, Australia, by Byrne. (Prairie School Review, 1968)
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Early suburban freeway traffic. (Rowe, 1993)
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Abstract

This thesis is a proposition for a new approach to the infill of the existing suburban context. While specific to a particular place and land use type, the rule making approach which is proposed and different from the existing is conceived as a general premise. That is, in place of the abstract functional rules which permeate the zoning regulations of Anytown, USA, I propose to substitute a rule making exercise aimed at retaining the historical characteristics of landscape and place which predate the increased density.

The thesis seeks to demonstrate that maximum allowable density can be achieved while retaining the existing hierarchy of contiguous spaces and the relationship(s) of dwelling units to that hierarchy. The thesis emerges from a practical confrontation with the potential subdivision of a 1.6 acre property surrounding a 100 year old carriage house in suburban Beverly, Massachusetts converted to residential use 35 years ago.

A brief critical history of the ongoing evolution of the American suburb and some precedents for architectural response to its shortcomings provides the basis for the design principals for this thesis which are then applied to two sites in Beverly. The goal is to accept the inevitable increase in density while developing and implementing a set of conditions at the neighborhood and house level that enhance the opportunity for continued enjoyment of Olmsted’s notion of the “leisure, contemplativeness and happy tranquillity” \(^2\) of the suburban ideal.
The suburban colonization of the United States began in earnest at the end of the 19th century. Transportation technology permitted the concentrated living conditions of the city to be overcome by streetcar and commuter rail lines. Utility companies and railroads looking for customers promoted the subdivision of vast quantities of previously agricultural land into residential developments. Suburban sprawl emerged and with it, a growing separation of urban and industrial activities from residential. The metropolitan region quickly took on a monocentric model of spatial distribution with a commercial core surrounded by residential and mixed use settings at decreasing density.

This phenomenon continued unabated until the 1960’s. Then, however, the completion of the interstate highway system and related ring roads like Route 128 led the way to the establishment of multiple commercial centers in dispersed suburban locations. Office parks and shopping malls proliferated at the far edges of the former city enabling citizens to move further into the countryside without incurring prohibitive time costs for transportation. The separation of manufacturing and management resulting from different human resource requirements and the desire to achieve manufacturing economies of scale not
possible in existing metropolitan locations further encouraged this phenomenon.

The widening ring of the metropolitan region put natural inflationary pressure on residential land costs. At the same time, increased land use forced the institution of public sanitary systems in municipalities which had previously relied on private (septic) systems. Densities which had previously been limited to as little as one house per acre were no longer necessary nor economic. School costs as well as other municipal costs further increased the tax on residential property and larger parcels were quickly reduced to smaller subdivisions.

While considerable attention has been paid to the minimum lot subdivision and particularly to large scale development typical to the 1960’s and 70’s, less consideration has been given to the growing impact of the subdivision of the individual residential property from a single large lot with one house into smaller lots with multiple houses. Peter Rowe, in Making A Middle Landscape addresses the issue peripherally in his discussion of the house’s emergence as a speculative investment in the inflationary period of the 1970’s. He contends that the house became a product for which there was both demand and appreciation potential;
Real estate has always had the potential for commodification. What is different in the emergence of the suburban house as commodity is the increased tendency of the homeowner to make decisions of size, style, look, and even subdivision of the property based on perceived market value. At the individual house level there is no evil in this decision. As Rowe puts it, “It is not the similarity in appearance of units or the exercise of bad taste, as some critics claim, that commodifies the domestic suburban landscape; rather the problem is that the typical suburban single family house runs those risks without the intrinsic support to be found in more substantial urban dwellings for giving some semblance of community identity.”

The fact is that most subdivisions of an individual property results in an immediate commodification of the entire property. The buyer of the out lot(s) is often a small builder who listens to his Realtor and builds the “type” that is selling most quickly in the community. The compatibility of the “type” to the land, the existing environment or the potential making of neighborhood is utterly irrelevant.
The result is a patchwork of privacies which virtually and often physically
smothers whatever vestiges of Olmsted's "distinctly rural attractiveness" remains
and along with it the public/private relationships which gave identity to the
community.

Communities’ reactions to this normal and rational behavior by its citizens
is, in my view, often misguided. Instead of addressing the issue of community
identity at the community or public scale, the focus is on forcing a notion of
identity on the individual homeowner. To achieve this concept architectural
review boards are formed to further assure conformance to a style or even, at its
most absurd, a color. Upzoning is also utilized. The perception that larger lots
will somehow retain the pastoral character of the community fails to understand
and address the fact that the public character of a place is not made of privacies of
any size but of the relationship of privacies to the public environment. Too often,
the sanctity of individual property rights is assumed to preclude any action save
absolute enforcement of outdated or counterproductive zoning and building codes.
The focus is "prevention" rather than "contribution". Reaction is substituted for
action. Over time, the tenacity of the individual to achieve maximum value for his
property prevails over the collective resistance. We are left lamenting what has
been lost and are powerless to prevent it from happening again.

The following is a consideration of steps necessary to develop a contributive model for the further subdivision of existing suburban properties. The thesis is that increased density can be accommodated without losing the character, identity and sense of place that attracted us to the suburb in the first place. The approach differs from the typical and existing in attempting to establish rules or codes based on the hierarchy of contiguous spaces, public and private, that make up the community. It rejects the notion that we can retain identity by prevention or by forcing conformity on the private and substitutes an approach to fostering development which mediates between private and public so as to build or continue a public or community identity.
Place: Precedent and Paradox

Intention Vs. Order

Throughout history and across cultures there has been a common orientation to making of place which recognized the need for a multiplicity of physical relationships. The earliest of men’s efforts at architecture were simple reactions to his physical environment, a roof to shield the sun, a cave to deter predators. However, early in the history of most known cultures there is evidence of the making of place related to the much more complex relationships among members of the culture. From the Bushman’s ritual path and the ceremonial paths of the Darling River valley in western Australia to the pilgrimage churches of western Europe, placemaking began with paths of initiation, faith or commerce. These paths appear to have predated the existence of permanent settlement along them. However, from the earliest examples, there is consistent evidence of definition along the path. This definition or intention recognized and formalized the social interaction of man, whether through casual encounter or formal ceremony. Place was directly related to the path. It was, however, the discontinuity, rather than the continuity which made place. In its simplest definition, place is not the wall but the gate, not the path but the clearing. Place is intention.

“A true place is by nature complex, hierarchical, polyfunctional, individual, and multiform. A functional zone instead is by nature simplex, nonhierarchical, and uniform, without true identity and individuality. A true nonplace is not more than the sum of its parts.”

Leon Krier 1991 ¹
Modern man's intellectual capacity for analysis and invention, his preoccupation with technology, safety, power, money or even fairness has permitted non social and ultimately anti-place making considerations to dominate his view of the built environment. We ascribe exceptional insight to architects, planners and traffic engineers and permit the functional specialists to usurp responsibilities formerly the requirement of every member of the culture. The result, as Leon Krier and others have observed, is a world of functional zones, efficient for their economic or political purpose but having utterly nothing to do with those fundamental human relationships which history demonstrates are the generators of place. Intention is abandoned for function.

While this is a substantial topic which can be addressed at many scales, I wish to assess the impact of this abandonment of placemaking in the context of the modern American suburb. The very concept of place is in direct conflict with the historical and philosophical evolution of the American suburban context. In some respects this may be the result of the very definition of suburb; a functional zone for residential use. In others, however, the reasons are related to the substitution of order for intention. In these instances, steps can be taken to restore placemaking.
Suburban Reality: Order over Place

The post WWII demand for housing combined with the availability of a universal mortgage facility resulted in the emergence of the modern suburb. Levittown and its imitators were an attempt to adapt the “House in the Garden” to the budget of everyman. The result was an efficient if endless assembly line spewing out what John Keats called, “identical boxes spreading like gangrene.”

This suburban icon, the House in the Garden was but another rung on what Constance Perin called “the ladder of life”. Success on this ladder was measured by whether one rents or owns one’s dwelling, whether it was an apartment or a house, etc. The risk that attaches to this view, as Rowe points out, is that, “all the markings and expressions of house are calculated solely toward social status.” It is not the similarity in appearance of units or the exercise of bad taste that commodifies the domestic suburban landscape; rather, the problem is that the house becomes primarily an investment and the suburb becomes a portfolio. The desire to protect the investment’s value leads to a proliferation of building and zoning codes which, while well intentioned, are ultimately a driver in the commodification of the dwelling unit and the loss of place in American suburban communities.
Exclusionary zoning and the explosion of metropolitan populations diminished the distinction between city and country. However, instead of Wright’s Broadacre, a sophisticated countryside in the Jeffersonian notion, we have achieved what Alex Krieger calls “an omnipresent suburbia”. The suburban vision built by Olmsted at Riverside, Illinois was a mediator between the urban commerce of Chicago and the great nature of the western plains. The lanes and roads Olmsted envisioned taking man to nature now lead only to more suburbs. The public realm represented by the city has been deserted, replaced by shopping malls and office parks. The pastoral has been covered over by residential and commercial subdevelopments and the street is no longer a path but merely a connector between uses.

The monotony of the suburban experience is, in fact, the direct result of commodification. Robert Wood observed that the organization man built a house which expressed the values of real estate experts but never his own. Ultimately, the tyranny of the group results in buying the right car, eating the right breakfast cereal, using the right lawn tractor—every week! Gradually, according to Perin, “everything is in its place”. Krieger contends that the final result of this building of order is, in fact, no place.
Reclaiming Intention

How do we extract ourselves from this quagmire? How, as the suburban sprawl reaches maturity, can we change the rules so as to retain or reintroduce the capacity for place? We must recognize that the suburb will remain a residential zone. However, we can ask if the functional uniformity bred of commodification can be challenged. Can local landscape and history guide us in making rules which fosters definition and intention, a retention of identity?

These simple questions drive a process that Andres Duany and Elizabeth Plater-Zyberk (DPZ) have developed for the shaping of principles and formal regulatory controls aimed at connecting new development to our historical notion of place. DPZ has shown conventional zoning ordinances to be impediments to achieving urbane communities. Their response has been to establish a process designed to develop a set of new building and zoning codes focused on the ideas that make place. Their work has evolved from specific projects to a general code based on a quite specific view of what an appropriate model looks like. This model is founded on the principle that diversity of uses and incomes are fundamental to urbane communities. The result is the Traditional Neighborhood Planning principles at Seaside. (Duany, 1991)
Development (TND) Ordinance. The TND addresses the creation of new developments in traditional patterns by prescribing physical conventions with social objectives. Applied to new development, the conventions are focused on using the codes to build a public realm. Some aspects of this approach are consistent with the 18th century practice in Paris of building street facades before actually constructing the building(s). The facade became support for both public street and private inhabitation.

Unfortunately, DPZ’s most visible early success is the town of Seaside, Florida. As a highly sought after resort community and tourist destination it suffers from some of the same problems that older exclusive resorts experience. It is not diverse, its homes are increasingly commodities and its charm is more in the realm of the picturesque than in that of community. As Krier notes, “most Places in the United States have been transformed into heritage consumer items; stage sets to be looked at, at best to be lived in on weekends”. 12 Thus it is possible to dismiss the fundamental strength of the DPZ concepts based on criticism of specific results.
What one misses in such a casual review is the fundamental principle which could aid in the development of neighborhood ordinances for infill as well as new development. We must develop an understanding of the built form that makes a place and write codes which enable and encourage formal extension of those patterns of physical and intellectual inhabitation that make place.

Seaside. (from Stern, 1986)
A Development Code for Beverly, Massachusetts

In order to develop and apply a new approach to rule making for continuing suburban development, it is essential to begin with an intention. I will make such a proposition of intention based on dissatisfaction with current zoning requirements as compared to historical development of one small area of suburban Boston. My belief is that if we codify the values of pre-expert development, whose tenets were frugality, cleanliness and general respect for the landscape, we would enable the retention and continuation of placemaking even in the face of the instinct to commodify the suburban dwelling. At the larger scale we might retain the definition of the path and the notion of place.

Beverly, Massachusetts and environs are a reasonable testing ground for this idea in part because the community grew up as both an independent village dating to 1668 and as a destination for wealthy Bostonians, initially as a summer community and, since WWI, as a community of permanent residents. As a result, patterns of pre-suburban development are mostly intact. These patterns can be studied in order to seek clues for contemporary rule making.
Historical Development

Late 19th and Early 20th century newspaper accounts of the development of Beverly Farms suggest a kind of simplicity that belies the luxurious estates that predominated. These large properties resulted in an informal organization of buildings for specific purposes which were tied together by private roads or paths. Typically, large estates had carriage houses or stables along the rail line or roadway which included living quarters for employees and long drives to the main house. Often a second house for other family members was located on the grounds. Additional pavilion-like structures at the harbor edge were often larger than typical single family homes.

In the post WWI period, especially during the thirties, the changing fortunes brought about by the recession resulted in the breakup of many large properties. Some were developed into smaller sites, usually incorporating the original private roads either as associations or as dedicated rights of way. Others simply had parcels along the right of way split off for individual development. Often the original carriage house or barn became a separate unit as well. The resulting pattern is one of small lots along the street edge with openings to large open fields.
or woods beyond with the original estate houses enjoying a relationship to the roadway that differs little from the original organization. Other houses on the site were also sold to separate owners who share the private road/driveway. Beverly remained the province of the wealthy. However, the definition of wealthy changed.

After WWII, the rail access that led to Beverly's first emergence made it and other North Shore communities natural beneficiaries of the shift to a suburban, commuter lifestyle. Subdivisions near rail stops were followed by increasing residential and commercial development along major highways. The pattern was like that which occurred near large metropolitan centers throughout the northeast. A distinguishing feature of coastal North Shore communities like Beverly was the historical predominance of large residential estates. Thus, in the parlance of the real estate trade, the land was already at its "highest and best use". The large scale tract development typical in formerly agricultural areas like Burlington, Braintree or Framingham was, for the most part, precluded. Additional residential development tended to follow the prewar pattern with intensification of the original rights of way but without the introduction of new street networks and infrastructure. As a result, the architectural and landscape characteristics of these communities was preserved and, in some cases, enhanced.
Whatever one's attitude toward the theoretical explanations of man's perception and relationship to landscape and aesthetic satisfaction, there can be little debate that there is an aesthetic charm to this particular area that is directly related to the organization of landscape. I contend that an understanding of this organizational character is the appropriate generator of code to permit continued development while retaining a sense of place.

Paths and Places

Virtually all development in coastal Beverly has been an intensification of an existing use within an existing framework of streets and country lanes. That is, there has not been a dramatic conversion of land from large, agricultural plots to small residential sites. A comparison of Beverly zoning maps from 1927, 1965 and 1994 reveals virtually no change in lot size requirements, few new roads and very few subdivisional cul de sacs. Rather, the pattern of development of the existing rights of way and their boundaries, the original walls and gate buildings, followed later by additional buildings at a similar scale has been the norm.

These rights of way began as animal trails carved into the landscape in the most efficient way possible. This established both their form and character. On the uphill side, the earth from which the roadway was cut is supported by stone retaining walls. On the downhill side, a similar retaining wall supports the roadway. These walls were successively inhabited, first by carriage houses or barns and later by conversion or addition into dwellings. As a result of this early inhabitation, the formal street edge or street wall which began in the era of large residential estates has continued. Setbacks have been dictated by historical
patterns and forms. As a result, real vertical boundaries exist and the roadways take on spatial character. The new as well as the old inhabitation both defines the path and becomes the threshold between the public realm of the roadway or path and a lush private place beyond.

An accidental but important characteristic of this form of path construction is the further tendency to build along the edge of major changes in slope. In Beverly, this has resulted in an experiential relationship between path and landscape that is repeated over and over. The best description of this experience is an alternation between closed and open vistas. This alternation in both linear and lateral. One has a sense that the landscape has a rhythm of its own, moving independently across one's own line of passage. This experience has a real impact on the sense of place. There is a public realm that is at once continuous but changing. It has real boundaries. The landscape boundaries are made by the sharp elevation changes that give a sense of lateral directionality to the experience of passage. These are reinforced by the built form, the retaining walls of the path and the walls of the inhabitation that followed the walls. The total experience is one of being transported through a series of places, each with a character of its own, each quite public but with clear boundaries, definition and intention.
In Jan Wampler’s ongoing research into the notion of “the space between”, he parallels the notion of the path through a woods to the street through a landscape. “A woods is only enjoyed when a series of paths and places are made to experience it. Paths enable movement through the landscape and at the same time provide a way to view it. Paths and places allow for sunlight to penetrate and flowers to grow. The flowers become the architecture of the woods.”  

Kevin Lynch found that “many people, if asked to describe the ideal house of their fantasy, will sketch one from whose front door one steps into a lively urban promenade, while at the rear there is only silent countryside.” The historical development of the paths and places in Beverly have given form to these concepts of social and philosophical inhabitation. Yet, modern zoning laws, even those in Beverly, virtually prohibit place making forms like those which resulted in Beverly’s unique relationships between public and private.

The “modern” street is in sharp contrast to the landscape/inhabitation form which has evolved in Beverly. It is exclusively engineered for vehicles and constructed by bulldozer. It is neither of landscape fabric nor inhabitation. Even the most residential cul de sac is constructed to accommodate the turning radius of the largest fire truck on the market. Combined with typical front setback

![Typical residential neighborhood. (Rowe, 1991)](image)
requirements (30 feet in Beverly), a vast no man's land typically 100 feet between houses is created. This vast chasm combined with the American custom not to fence the front yard but to commit its territory to showing off the house and/or parking the car leaves a territory which is neither public nor private but one which is typically larger than the combined back yards of abutting neighbors.

Thomas Schumacher, in *Buildings and Streets: Notes on Configuration and Use*, addresses the typical American residential street of single family detached houses. The front lawn, according to Schumacher, can be perceived as a forecourt because it is literally a horizontal plane. However, because it does not contain space and its material (typically grass) inhibits public use, it can equally be read as a virtual vertical plane. In this sense, the lawn serves in the same manner as the ground floor of an Italian palazzo, which raises the principal living space to the *piano nobile*. However, this ambiguity has a negative impact on the street. The lawn, unlike the facade of a palazzo, does not function to enclose or define the street but only to isolate the street from the house. It becomes no one's territory. The result is a loss of distinction between path and place and, ultimately, a loss of lateral continuity between public and private worlds.
The unique aspect of Beverly’s development is an urban-like form that has evolved in a suburban setting. The street was built first by its use and later by inhabitation. The hierarchy of place is unlike most American suburban models. As is more typical in Europe, distinctions are sharply drawn between the public realm of the street and the private realm of the house. The zone beyond the built edge is private but open to contemplation, offering the traveler glimpses of the garden through garden gates or breaks in the built edge.

This contradiction between fact and rule suggests an approach to rewriting the rule so as to retain and extend a form making precedent that can build both physical and psychic relationships between the citizens and the landscape. This then is the basis for the rule making that we shall propose. For the purposes of this thesis, I will address only the low density residential areas of Beverly. These areas now consist of R-22, R-45 and R-90 zones, approximately one-half, one and two acre Lots.
Codes to Extend Traditional Form Making

In order to write a replacement zoning code for Beverly that will encourage a continuation of the traditional landscape and built form conventions that result in the hierarchy of public and private spaces that create its current charm, we must quantify experience. To achieve a generally understood and useful set of codes, they must be both simple and minimal.

With this objective, I have analyzed the landscape and built form conventions that I believe lead to the current quality of experience in Beverly. For the purpose of analysis, Hale Street and its tributaries is the best extant pre-expert example. The area from Boyles Street to Prides Crossing has had virtually no new road construction in over 100 years. Some paths have been widened, as has Hale Street itself, but deeded subdivision is virtually unknown. New building construction, likewise, has been minimal. I could find no more than ten houses that were not in the Beverly Atlas of 1897. Endicott College has acquired several estates and has built new buildings on some sites. However, these do not change the scale or radically alter the overall experience of the area.
Beverly Figure Ground

This map is taken from the 1897 Beverly Atlas. New Streets and buildings have been added to reflect changes. These are limited, in the main, to the western most part of the area, particularly at the intersection of Boyles and Hale Streets and the new street off Boyles. Most buildings are or were parts of large estates. Former animal or carriage barns have been converted to residences along the roadways. Its development in the 1970's followed current zoning law.

The two sites to be addressed by this thesis are the shaded parcels. That on Boyles Street is the Riquier property. It is a 1.6 acre parcel in the R-22 zone currently a single property with a converted carriage house dating to 1915. The larger site on Hale Street is the Fricke Estate. It is 14.4 acres in the R-45 zone. The original house and the car barn are both extant. The private road system is as it was in 1897.
Topography

The land rises dramatically from the shoreline of Beverly Harbor to a plateau at about 50 feet, then rises even more rapidly to a second plateau at 100 to 120 feet. Hale Street tends to hug the edge of this second elevation change creating an edge condition which makes for vistas across fields toward the water. Large estates tended to be buffered from the roadway by pastures. These open spaces are perceived as part of the public world despite their ownership.
When the foliage and street walls are overlaid, the definition of the path as a place becomes more clear. The alternation of closed and open spaces is apparent. The paths and places permit an experience of the landscape that would otherwise be lost.
Sight Lines

The sight lines for the traveller through the Beverly landscape reveals the constant change of scale experienced on the path. Walls and landscape conspire to shift the focus of one's experience from tight spaces to open, from right side to left side edge conditions. The scale of the path varies from 40 feet between two walls to several miles as the harbor and Marblehead to the south are revealed. The sense of being in a series of unique places is undeniable.
The experience of the landscape in Beverly is of a public realm that is constantly changing. Yet, one is always in a place with clear definition. The view is almost always framed and the traveller is always at a point of prospect, his back to the "wall". Rather than being at sea, one has the sense of possession of that which is revealed. There is at once a sense of surprise and a sense of control or safety. This experience is the product of specific relationships between public and private territory which can be codified to encourage its continuation.
At the landscape scale, Beverly offers alternations of closed and open vistas bounded by changes in elevation and dense foliage. Here on Boyles Street, the eastern side of the roadway is dense woods while the west is open to former farm fields.
In older areas of Beverly the layering of street walls, tree lines and dwellings close to the street wall combine to create a man made edge which has a similar effect on one's perception of the territory of the public path as larger landscape characteristics. At every scale, the edge is offset by open territory opposite. In this case, the opposite side of the road is occupied by the old cemetery.
These houses are typical of the built edge characteristic of older development in Beverly. While the road was probably widened here, the relationship of the houses to the street is very urban in scale. The houses, uniformly arrayed at the street edge, build the public as well as the private territory. Their walls bound both street and house. The condition is very much like the ideal described by Kevin Lynch. The front of the house opens to the activity of the street while the back opens to the tranquility of the open landscape.
This long vista is to the south is revealed through the foliage immediately across from the houses on the proceeding page. The open vista, at a pedestrian scale, gives a dramatic change in scale to the experience of the street. The territory is private but the experience of it is public. The framing of the vista by the dense closure which surrounds it further intensifies the experience. The overlapping of private and public creates a condition in which the space may be experienced and enjoyed by both the public and private worlds.
Contributive Zoning Ordinances

If we are to retain a public identity in Beverly, we must offer rules which encourage a continuation of the forms which contribute to the current experience of the public realm. It is this public condition which differentiates Beverly from newer suburbs in which the public streetscape has been dictated by traffic surveys and built by bulldozer. The street edges and walls which so contribute to the existing public/private mediation are virtually unheard of today. However, these walls, along with the inhabitation of the edge that they encourage, contribute the built character of the public territory and the overlap of private and public space which so enriches the experience of passage in Beverly. Further, the alternation of open and closed vista creates the interest and sense of belonging that is lost in most «modern» rights of way.

In essence, we must abandon uniformity and encourage discontinuity or variety. We must require that the private developer build both the private and public domain. In that the overlap of the two makes each richer, we are not taking from the private but rather enriching it. In a world of economics, however, we must have something to trade. While controversial, I offer the elimination of
traditional right of way construction as the City’s contribution. The setback and frontage requirements of the current code do nothing to reduce overall traffic volume in a residential area. If anything, they do the opposite by stretching the naturally low density of the suburb across an even lower density street system. Everyone must drive further to service the same number of dwelling units, from the refuse collector and school bus to the snow plow. More territory passes into the public domain, to be maintained and not taxed. I would relax the frontage requirements for developers willing to provide and maintain private access to more than one dwelling.

The following Beverly Neighborhood Extension Ordinance is designed to recognize and codify the conditions of inhabitation which have created the public/private experience in Beverly. While not suggesting that they address every potential issue, I have followed with an application of these codes to two sites in different zones, R-22 and R-45. I believe that these applications demonstrate the potential to encourage development in traditional patterns without further restricting density and without loss of a sense of place.
INTENT

It is the intent of the Beverly Neighborhood Extension (BNE) Ordinance to implement codes that encourage a continuation of historic residence to street and street to landscape relationships while encouraging further residential development.

PURPOSE

The BNE is designed to ensure the development and subdivision of land along the lines of traditional neighborhood patterns. Its provisions adapt the conventions which were normal to the community from colonial times to the 1940’s.

Land Use

Low Density Residential Land Use:

Land designated for LDR use shall be in lots generally containing buildings for residential and uses including single family houses, guest cottages, Home Office and others by Special Exception.

Lots and Buildings

Low Density Residential Lots and Buildings:

a. Subdivision of an Existing Lot shall be permitted so long as the subdivided lots meet both the lot size requirement for the zone and building setback requirements.

b. Buildings on LDR lots deeded after November 10, 1994 shall be set back either 1) Zero (0) to ten (10) feet from the Streetedge or Streetwall or 2) at least one half (1/2) of the total depth of the Existing Lot measured perpendicular to the ROW to the deepest point of the Existing Lot. Exception: any existing building may be retained for residential use. It may be expanded to a maximum of 4 times its existing footprint.

c. Buildings meeting condition b. 1) shall not be permitted directly opposite one another on the same ROW. Opposite is defined as having any portion of a building less than 150 feet from any portion of one on the other side of the ROW.

d. All lots shall have a Streetedge. Lots with buildings meeting condition b. 1) shall have a continuous Streetwall along the unbuilt portion of the Frontage Line. This Streetwall will be contiguous with Streetwalls of neighboring lots bordering the ROW. Streetwalls are permitted on lots with buildings meeting condition b. 2) provided that there is not a Streetwall opposite the proposed on the same ROW. Opposite is defined as within 150 feet from the proposed Streetwall.

e. Buildings shall be setback from the side Lot lines equivalent (in total) to no less than 20% of the width of the Lot. The entire setback may be allocated to one side.
Extension Ordinance

f. Buildings shall be setback from the rear Lot line no less than 40 feet.

g. No more than two (2) street openings are permitted per Existing Lot. If more than two Lots are created by a subdivision, they must be served by a common private access way. New ROWs are permitted only when more than five (5) Lots are created and when the ROW will adjoin an existing ROW. No cul de sacs are permitted.

h. Cluster zoning is permitted. Up to three Lots may be combined. The combined Lots may contain a common wall building supporting one family dwelling per Lot included so long as each dwelling unit has at least 35% of its gross area (excluding garages) on the ground level and separate, ground level entry is provided for each dwelling unit. If not sharing a common wall, the maximum permissible separation of enclosure, one building to the next, is 8 feet. Setbacks on combined Lots shall apply as in single lots. The building/buildings shall be treated as if it/they were a single unit.

Definitions

Existing Lot:
Any parcel held by single deed on or after November 10, 1994, irrespective of total square footage.

LDR:
Low Density Residential Land Use. R-22, R-45, and R-90 zones.

ROW:
Right of Way. The deeded public easement for use as roadway.

Street Opening:
An automobile access from a Right of Way into a private lot.

Streetedge:
A masonry wall, either free standing or retaining earth, or a hedge no less than 50% opaque built along the Frontage Line between two and four feet in height. Any wall, fence or hedge built between the streetedge and a point even with the nearest enclosed edge of the dwelling may be of no greater height than the streetedge. The % opacity shall be calculated including all openings.

Streetwall:
A masonry wall no less than 75% opaque built along the Frontage Line between five and nine feet in height. The % opacity shall be calculated including all openings. A structure is also defined as a streetwall if any vertical surface (wall) of the structure intersects a line drawn perpendicular to a ROW from that ROW's center line at an inclined angle of 26 degrees from horizontal (e.g., if a structure wall exceeds 19.5 feet 40 feet from the centerline of the ROW, that structure constitutes a streetwall).

Streets

Low Density Residential Streets:

a. LDR use Lots shall enfront on Streets with a maximum ROW of 46 ft. A Street shall consist of a maximum of two (2) travel lanes. No turn-outs or passing lanes are permitted.

b. Bicycle or pedestrian ways are permitted within a ROW so long as they are separated from vehicular lanes by a physical barrier consisting of either 1) a curb or 2) a landscaped median no less than six feet in width. At intersections and street openings the bicycle/pedestrian way shall be marked by signage on the surface of the ROW.

Parking

Low Density Residential Parking:

a. LDR off street parking places and garage entrances shall not have direct access to the ROW through the Frontage. This provision may be met by setting the garage entrance perpendicular to the ROW or by shielding the entrance or outside parking by a wall or continuous hedge (evergreen or deciduous) at least five (5) feet in height at maturity.
Applying the BNE Ordinance

The Fricke Estate

In order to test the principals and language of the BNE Ordinance, I have applied its conditions to two sites, the Riquier Property in the R-22 zone and the Fricke Estate in the R-45 zone. The most important aspects of the code are the public/private mediation resulting from sections b, c and d.

Section b seeks to continue the tradition of open vistas alternating with closed street edge conditions. In the case of the Fricke Estate this section would permit a cluster of houses at the street edge but would not permit any building in the existing middle territory between the street and existing development. Given the propensity for existing conditions of development similar to Fricke on other large parcels, this seems to be an effective way to maintain the middle ground as a mediator between the public path and private inhabitation. This section, combined with the street opening provisions of section g will reduce the asphalt to asphalt condition of multiple driveways and their typical camouflage planting which further privatizes the formerly open space of the larger single property.
This section also sanctions street edge or wall buildings so long as they are not directly opposed to one another on the path. Opposite the Fricke estate is one building which meets this opposite condition. As a result, the Fricke subdivider would be forced to put wall buildings at either end of the property but not in the center. Combined with the street opening restriction, this results in a maintenance of the alternating condition of the existing landscape and, in this case, could intensify that form by introducing it at the building scale as well as the landscape scale. The street edge requirements of Section d are less important in the Fricke case because one already exists. However, the rule requires its maintenance and its continuity.

The anticipated development alternatives based on current and BNE Ordinances on the succeeding pages demonstrate the objectives of the rulemaking on public form making. No attempt to regulate the form or style of building is undertaken. Hence, in both examples the diagrammatic presentation of buildings in the portion of the property not directly influenced by the BNE Ordinance is the same. The Ordinance is designed only to contribute to building the public realm in the vernacular tradition.
Note the loss of a public zone along the street edge. New street openings reduce longitudinal continuity of path.
Development under BNE Code

Public/private scale and mediation is retained. The historic streetwall/inhabitation condition is reinforced and intensified by development on the western edge of the property.
The Riquier Property

The smaller Riquier property is more difficult to address with new codes. This is in part due to the fact that the property is difficult to subdivide into three buildable parcels because of the central location and large footprint of the existing dwelling. However, a developer and the owner have offered up a scheme to meet current code which creates three bizarrely configured parcels to meet frontage and setback requirements that will obliterate the public/private overlap which made this property a magnet for public outcry at the Planning Board review of the proposed subdivision. However, by meeting the current codes, the developer was granted the requested subdivision. This process demonstrated the need for an approach like the BNE Ordinance. The committed land owner will find a way to achieve financial gain. Code needs to permit that normal instinct but with covenants which maintain the public identity of place.

In the case of this parcel, it is virtually impossible to build beyond the 1/2 total depth called for in Section b of the BNE Ordinance. As a result, development of this property must incorporate wall buildings to meet the code. In
that the house opposite the property on Boyles meets the definition of a Streetwall, the location(s) for development are further restricted to the most northerly portion of the site or the south edge along Brookhead Road. An alternative would be to join both new dwellings with the existing carriage house to create a single common wall building.

The developer’s proposal and an individual dwelling alternative under the BNE Ordinance are presented on the succeeding pages. The public/private overlap of the existing property can be maintained through the BNE Ordinance. The new Streetwall contributed by the addition of the dwelling on Brookhead reintroduces the normal vernacular to a site previously “modernized” by the subdivision of the 1970’s. These are the key objectives of the new code and appear to meet the test of contributory zoning.
Development under Current Zoning Code

The public character of the clearing is lost. The new houses have virtually no exterior privacies and the street to dwelling relationships takes on the "moat" characteristics described by Schumacher.
The clearing is retained. The removal of the driveway and the closing of the wall makes the public understanding of the territory more clear, one of enjoyment rather than use. At the same time, this territory is more easily shared as an exterior privacy of either new dwelling. The construction and inhabitation of the streetwall on Brookhead Road brings this path into the context of the prevailing typology.
In the preface to *Architecture Without Architects*, Bernard Rudofsky summarizes his interest in “nonpedigreed architecture” with a quote from the late Pietro Belluschi. Belluschi defined communal architecture as “a communal art, not produced by a few intellectuals or specialists but by the spontaneous and continuing activity of a whole people with a common heritage, acting under a community of experience.” A recurring characteristic of the remarkable images Rudofsky presented is what he called “an admirable talent for fitting their buildings into the natural surroundings. Instead of trying to conquer nature, as we do, they welcomed the vagaries of climate and the challenges of topography.”

While presumptuous to compare the last five score years on Boston’s suburban north shore to the centuries of civilization represented by the architecture of Machu Picchu or Monte Alban, the lessons to be learned from the “communal art” practiced in the pre-bulldozer, pre-expert time of any civilization are the same. We must not permit our democratic need to identify the universal truth (code) result in universal mediocrity. We must not substitute order for place. As an alternative, we must understand the historical characteristics of the built environment’s relationship to landscape and climate and use these facts to formulate codes. Particularly in the suburb, by its definition, a functional zone, we must permit and encourage a continuation of place making forms that enhance and intensify our relationship to Griffin’s “highly developed and perfected living organism”.

Conclusions
Appendix

The Streetwall House

Most, if not all of the inhabited wall buildings which pervade Beverly and informed the code developed in this thesis were adapted from a prior agricultural or service function. The reality of suburban development over the last 40 years leaves us with a model for the suburban house in the “moat as yard” style. "Proper" houses have fronts and backs, the front for show, the back for barbecues. Faced with the requirement to build on the Streetwall, one cannot turn to one's latest copy of "Home Plans Guide" and find several "appropriate" designs from which to choose.

My quest to understand the historic forms that make Beverly what it is today led me to look to early New England vernacular architecture. The fact that virtually all carriage barns are oriented east-west was new information for me. I will never need a compass again! Thomas Hubka's book, Big House, Little House, Back House, Barn, The Connected Farm Buildings of New England, provides rich detail on the culture that resulted in a distinctly New England architecture. The images he presents help explain the connections between the public path and private place of the dwellings common to New England and, with some differences, common to Beverly.

(Hubka 1984)
For me, the value of Hubka's findings relates to the use orientation fundamental to early farm buildings. The design of the buildings and the territory around them were approached with care. These buildings truly follow Sullivan's notion of form following function. Each building element related both to the next element and to the use territory of which it was a part. The most important exterior was the "dooryard", quite literally a territory onto which doors of all the buildings opened. This was the territory of most intensive use for all members of the family. A separate exterior, usually opposite the dooryard, was the province of the kitchen, dedicated to vegetables, chickens and the orchard. Children were safe here, away from the hustle of the working dooryard. The parlor was always front and center, facing a small garden, usually fenced, directly on the street. The entire composition had an overall orientation to the sun dictated by the dooryard. It always had a southern exposure.

I do not argue for a return to an agrarian life-style nor to the Victorian forms associated with these buildings. However, the approach to designing all of the use territories, interior and exterior, as well as understanding their relationships to the entire landscape is crucial to developing reasonable formal interventions in the uncharted world of the suburban Streetwall house.
Claiming Exterior Space: Wright’s Contribution

In his prairie houses and particularly in the later Usonians, Frank Lloyd Wright broke the closed volumes of his Victorian predecessors. His designs integrated interior spaces with territory beyond the walls. In the best examples, like the Martin house (1904) and the Willets house (1903), there is a complete integration of uses and access, interior and exterior. The Coonley house (1908) incorporates a sophisticated articulation of service and family territories similar to the connected farm buildings of Hubka’s study. It also has a dooryard!

The houses of Wright’s Usonian period offer comparisons to the requirements of Streetwall buildings. Many of these houses were designed for what Wright believed to be minimal suburban lots. While we might yearn for days when one acre was “minimal”, Wright’s approach to maximizing the use of the site through a form I would describe as a Streetwall can inform our efforts to develop an approach to this condition in Beverly.

Some of the works are clearly better than others. I would argue that the earliest Usonians, particularly those Sergeant classifies as “polliwog”, lack the
multiplicity of territorial claim/use that so enriches the connected farm building. The Rosenbaum house (1939) is typical of this group. See analysis of public/private territory at left. The private zone is defined but one dimensional. The division between public and private territory is clear but "unfriendly". Similarly, the “in-line” houses often suffer a lack of overlap between privacies as well as a very abrupt break between public and private territories. The Willey house (1934)
has a very one dimensional character to its territorial claim. Houses in both categories also suffer from having only one or two “understandable” dimensions.

Willey house plan and elevation. (Sergeant 1975)
The best of these houses, however, have characteristics which seem fundamental to maximizing the design of a Streetwall house. In the Kaufman house (1935) and the Miller house (1952), multiple understandings of the site are achieved by projecting the enclosure boldly out from the edge, distinguishing exterior territory both by use and creation of multiple understandings of the same territory. Further, the introduction of several sizes enhances one’s perception of a space by giving it multiple readings. This phenomenon is comparable to the larger landscape perceptions observed in Beverly.

A further enrichment of the spatial experience of these two houses comes from an old Wright “trick”. The transition from public to private is like being pushed through a funnel. One moves from the open public world into a “tight” entry and is then spit out into the wonders of the lush private world of the inhabitation. At Falling Water, this experience is further enhanced by the transitional experience of the loggia. Both the world from which you have come and the world you are about to enter are fleetingly revealed to you just before you plunge into the house. These houses give greater meaning to Kevin Lynch’s description of the ideal house, offering direct connection to both the “active” public and the idyllic private worlds.
Fallingwater, despite being very much a wall structure, provides a layering of concealed and revealed views beginning in the entry sequence. Note the two views, one to the main privacy and one back to the roadway as one enters the loggia. The layering of the privacies enhances the sense of compression and release. The final move out to the view permits a full understanding of the direction and flow of the site.

Fallingwater plan (Architectural Forum, Jan. 1938)
Translucency: Schindler’s Contribution

Los Angeles was a rapidly developing/densifying suburb virtually from its beginnings. Against this environment of ever growing scale, R. M. Schindler provides insight into the inhabitation of the edge. In the Buck house (1934), Schindler creates a condition of ambiguity in the transition between public and private zones and multiple readings of the same territory. In the Buck house one’s reading of the transitional zone is highly dependent on whether one is inside or out. The entry, with its recessed and transparent wall is contrasted sharply by the continuity of the living room roof. A similar phenomenon occurs in the dining room/kitchen yard. The “edge” may be the garden wall. It may just as easily be the extension of the garage wall—the back of the dining room. Schindler reveals a clearly private zone only after you pass through this transitional territory.
The Design

In an effort to incorporate the ideas of the American vernacular with the lessons of the 20th century, I propose a building which is both of the wall but unique from it as a modern inhabitation.

The first layer of intervention is an extension of the wall. Access has a linearity and scale that permits an understanding of this zone as a layer, the inhabitation of the wall. The deployment of privacies differs from that of Wright or Schindler. The most private territory, the bedrooms, turn inward. They occupy the wall both as indoor and outdoor territory. The wall layer is then broken by an extension of access and inhabitation directly into the landscape. This move is fundamental to an understanding that the house is not the wall but a claim on the world beyond. The house has a translucency to the private side to reinforce this notion. The wall disintegrates into occupation. Privacies are deployed in the larger landscape to both claim and activate the space. A territory of relaxation is distinguished from one of activity. In essence, the dooryard and kitchen yard are one and the front yard has succeeded the old kitchen yard as the quiet zone, a place to entertain guests or for family members to “escape” for quiet time.
Introduce the vocabulary of the connected farm building. The wall is the smallest dimension in the landscape. The resulting scale suggests that it is the territory for the most private elements of the plan. The opportunity to compress the entry and then open the vista to the private world is facilitated by the nature of the wall form.
Plan and elevation development. Seeking to both mark the separation of wall and inhabitation and achieve a level of ambiguity or exchange between public and private territory at both the site and building scale.
Final plan and street elevation. Family space, the active zone is to the left. The 'parlor' is to the right, rear. The intersection of access is also the territory of exchange with the public world. One enters with the direction of the wall. Once 'inside', the public world is revealed once again, although modulated by the garden wall at the street edge.


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All photographs taken by the author unless otherwise noted.

All illustration citations are to the bibliography.
Notes

What do the neighbors think of her children?

To every mother her own are the ideal children. But what do the neighbors think? Do the smiles or happy, grimy faces acquired in wholesome play? For people have a way of associating unclean clothes and faces with other questionable characteristics.

Fortunately, however, there's soap and water. "Bright, shining faces" and freshly laundered clothes seem to make children welcome anywhere, and, in addition, to speak volumes concerning their parents' personal habits as well.

There's CHARACTER— in SOAP & WATER

The New York Cleanliness Institute published this advertisement in *Ladies' Home Journal* (1928), emphasizing the need for suburban parents to pay constant attention to appearances.