UNDERSTANDING AND TRANSFORMING WHAT'S THERE:
A LOOK AT THE FORMAL RULE STRUCTURE OF THE RESIDENTIAL FACADE ZONE
IN VICTORIAN SAN FRANCISCO

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Submitted to the Department of Architecture in Partial Fulfillment of the
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1
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ABSTRACT

UNDERSTANDING AND TRANSFORMING WHAT'S THERE:
A LOOK AT THE FORMAL RULE STRUCTURE OF THE RESIDENTIAL FACADE ZONE
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Submitted to the Department of Architecture on May 7, 1982, in partial fulfillment
of the requirements for the degrees of Master of Architecture and Master of Science
in Architecture Studies.

This study is an exploration of the relationship between understanding and
transforming an architectural context. The question asked is; What formal lessons
can be learned from an existing context? The discussion is limited to issues of
form and rule structure, particularly in reference to the zone of exchange between
outside/inside and public/private. The Victorian residential form in San Francisco
is used as a case study.

There are four parts to the study:

1. An observational study of existing residential facade zones which
consists of measured drawings in plan and elevation of a four block area
in San Francisco.

2. A design projection of a support infill building based on intuitive
interpretation of the observed context.

3. A methodological analysis of the context to derive the implicit
generating rules and principles.

4. Based on a comparison of the analysis and projection, a discussion of the
lessons to be learned from the context.

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N. John Habraken
Professor of Architecture
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Photo and Drawing Credits

*Olwell and Waldhorn, A Gift to the Street.
**Bicknell and Comstock, Modern Architectural Designs and Details.
CONTENTS

INTRODUCTION

1. OBSERVATIONAL STUDIES
   Selecting a Neighborhood 5
   Visual Image 6
   Use 7
   Types 8
   Physical Condition 9
   The Neighborhood 10
   Method of Observation 13
   The Observations 14
   Sacramento Street 14
   Clay Street 25
   Divisadero Street 32
   Broderick Street 38

2. DESIGN EXPLORATION AND PROJECTION
   Scale of Intervention 42
   Parking 44
   The Support 47
   Modular Coordination 48
   Plan Relationships 48
   Sectional Relationships 53
   The Facade System 54
   Framework 54
   Infill 57
3. SPECIFIC RULES AND GENERAL PRINCIPLES

Rules 64
Rules at the Level of the Support 64
Vertical Zoning 81
Lateral Zoning 83
Depth of the Wall Zone 86
Intensifications 86
Families of Form 93

Rules at the Level of the Tissue 100
Front Setbacks 100
Height 101
Direction and Orientation 101
Entry Privacy 103

Principles of Continuity 104
Principles of Continuity at the Level of the Support 104
Continuity of Elements 104
Continuity of Size and Positional Relationships 105
Continuity of Intensifications 105
Continuity of Materials and Form Families 105

Principles of Continuity at the Level of the Tissue 106
Edge Continuity 106
Orientation and Directional Continuity 106

4. CONCLUSIONS

Depth of the Wall Zone 111
Bay Sub-System 112
Access-Side Window 113
Window Size 115
Facade Organization 115
Summation 117
INTRODUCTION

I began this study with a somewhat vague notion about the relationship between understanding and transforming an architectural context. In approaching this relationship, two things served to delineate the direction I took. The first was a decision to limit the architectural discussion to the study of form. Use and building process were considered, but only as necessary to understand form. I was especially interested in the way implicit rule systems structure form to make up a given context. The second decision was that any discussion of formal context should naturally concentrate on the zone of the facade. This, I believe, is where the highest degree of contextual tension exists, at the critical zone of exchange between outside/inside and public/private.

In addition, there were a couple of hidden agendas that guided the overall direction the study took. One was something of a personal infatuation with housing and residential forms. The other was a personal interest in a particular city; a city that happens to have an unusually striking residential form based on a fairly coherent rule system. The
city is San Francisco and the residential form is Victorian. Like most people I like Victorian San Francisco a lot, and I began to wonder why. At the same time I began to wonder what it was in their form than made newer buildings in the Victorian neighborhoods so insensitive to their surroundings, and what lessons might be learned from the existing formal context to make such interventions more responsive.

In terms of method, I knew from the outset I wanted to do three things: observational studies of what exists; analysis and interpretation of the observations; and a design projection to transform what exists. The subsequent development of the study was not rigidly structured, and was certainly not a lineal process. The ideas eventually evolved into four parts, hence the four chapters that follow:

1. An observational study of existing residential facade zones which consists of measured drawings in plan and elevation of a four block area in San Francisco.

2. A design projection of a support infill building based on intuitive interpretation of the observed context.
3. A methodological analysis of the context to derive the implicit generating rules and principles.

4. Based on a comparison of the analysis and projection, a discussion of the lessons to be learned from the context.
1. OBSERVATIONAL STUDIES

An observational study of residential facade zones which consists of measured drawings in plan and elevation of a four-block area in San Francisco.
Selecting a Neighborhood

I began the study with the idea that context is somehow central to design, and that the only way to understand a context is through direct observation. I wanted to find a neighborhood to observe and then use as the site for a design projection. I spent a lot of time walking the streets of the city getting acquainted with different neighborhoods, the various images they project, and the uses and corresponding formal types that exist there. As I did this, I was able to define certain attributes which I felt were important to include in a neighborhood study area.
VISUAL IMAGE

The first attribute the neighborhood had to have was a range of what I felt to be good and bad visual images. This was a completely intuitive process in which I simply looked for places with some physical qualities I liked and some I didn't like. Later on this enabled me to compare things that were working with those that were not.
Another attribute I wanted the neighborhood to have was a range of uses. Although I was particularly interested in residential use, I felt it was also important to consider how commercial use was accommodated. The study area, therefore, needed to have transforming uses within a range of formal types. I was specifically interested in examples of residential and commercial uses within the Victorian single-family and flat type.
TYPES

There are a number of different residential types to be found in the city, the most common of which are single-family houses, flats, and a number of apartment variations. The Victorian residential type is generally of the single-family or flat variety while most of the newer buildings are apartments. I felt it was important to consider both. The Victorian residential type has the image I am interested in, but the newer apartments are what is getting built and make for an interesting contrast.
PHYSICAL CONDITION

I also looked for buildings in various states of physical condition ranging from careful historical renovations, to not-so-careful renovations, to buildings that were down-right dilapidated. Again, it is the contrast that is important, for example, the difference that materials or intensifications can make when dimensional relationships are constant.
The Neighborhood
The neighborhood I chose to study lies between the Western Addition and Pacific Heights and has all of these attributes. The Western Addition had at one time large numbers of Victorian homes, many of which are now gone. Those that have survived, however, are still numerous, and it is not unusual to find whole blocks in various states of repair and disrepair. Pacific Heights, on the other hand, is for the most part made up of somewhat newer houses and apartments with only a few Victorians scattered about here and there. While the Western Addition is cut through with numerous commercial streets, Pacific Heights is not. Sacramento Street, which runs through the heart of the study area, forms the southern boundary of Pacific Heights and is the closest commercial street to the neighborhood. To the south, toward the Western Addition, commercial streets begin to cut through the neighborhood rather than bound it, and become generally wider and harsher in nature. California Street, one block south of Sacramento, is a good example of this and is considered by many to be the dividing line between the two neighborhoods.
Method of Observation

The method of observation I used was direct observational drawing. The real value of recording by hand was simply that I spent a lot of time in the neighborhood looking in detail at the built form. In all, I spent a total of about three months doing these studies, the result of which is a series of measured drawings in plan and elevation of the neighborhood's built public edge.
The Observations

Street by street, then, the study area is as follows:

SACRAMENTO STREET

Sacramento Street is really the heart of the study area and has the physical attributes of both the Western Addition and Pacific Heights. I recorded two blocks on Sacramento: the south side of the street between Baker and Divisadero and the north side between Broderick and Divisadero.

The south side illustrates an unusual integration of residential and commercial uses. There are both good and bad aspects here with respect to image, the buildings are in various states of physical condition, and the street as a whole probably belongs more to the Western Addition than to Pacific Heights.
Sacramento Street
South Side

Scale: 1/10"=1'-0"
The north side is all residential use, mostly of the old single family and newer apartment types. There are some real jewels on this block, mostly toward the east end, as well as some rather dull and uninspiring examples. All the buildings here are in good condition, indicating it is really more a part of Pacific Heights.
CLAY STREET

The two blocks on Clay lie directly across from Alta Plaza on the south side of the street. The picture here is somewhat uniform. All of the buildings are of residential use, most are either Victorian single family homes or apartments converted from single family homes, and virtually all are immaculate historical renovations of the Pacific Heights genre.
DIVISADERO STREET

The Two blocks on Divisadero between Pine and Sacramento cut a transverse section across the edges of the two neighborhoods. The physical transformation from one to the other is striking, and illustrates a full range of formal imagery, use, and typologies.
9

Divisadero Street
BRODERICK STREET

The block between Clay and Sacramento completes the transformation on Divisadero up to Clay.
2. DESIGN EXPLORATION AND PROJECTION

A design projection of a support infill building based on intuitive interpretation of the observed context.
After the observational studies were done, I turned to the next two objectives. The first was to do a systematic formal analysis of what I had observed, and the second was to do a design exercise within the context of the neighborhood. At this point in the study I had the option to proceed with either, but I decided on the latter. In a way that seems like putting the cart before the horse, but looking back I think the decision was a good one. I had been objectively observing for quite some time and felt a more intuitive interpretation of what I had seen might help me in the subsequent analysis. The sequence I chose allowed me to approach the design exploration in much the same way as any architect who has carefully observed and intuitively interpreted a context. When I finally went on to the analysis, I already had a design hypothesis against which I could test the rules and principles I was deriving.

Before I could get on with the design exercise, however, there were a couple of things that first had to be resolved. One was the scale of intervention that would be appropriate, and the other was the problem of parking.
Scale of Intervention

San Francisco's pattern of development has historically been, and still is, one of small-scale multiple interventions that occur at the level of the lot. Lots are generally developed one at a time by individual owners, or several at a time by small developers. It's clear that the existing pattern of fragmented ownership is more supportive of incremental change than the simultaneous development of larger lot aggregations. For this reason I decided to look specifically at how small-scale multiple interventions might fit into the existing neighborhood.

The average standard lot size in the city is generally considered to be 27'-6" wide by 128'-0" deep. In actuality, there is a great deal of variation in the width dimension, and lot frontages can range anywhere from 20' to 32'. I chose to work with a lot width of 24', a little less than the average standard, but still common enough to use as a kind of minimum standard lot size. I figured that if a reasonable design solution could be worked into the 24' dimension, there would be no problem with the 28' lot.
Shotwell Street: lots developed one at a time.*

California Street: lots developed several at a time by a small developer.*
Parking

The other decision to be made has to do with parking. The city zoning requirement, a minimum provision of one off-street parking space per unit, presents a couple of tough problems. Whenever there is more than one unit per lot, a very difficult situation is immediately encountered in which the entire building frontage at the street becomes garage entrances. In this situation, which is prevalent throughout the city, garages become the sum total of the urban pedestrian experience. At the same time each and every house and apartment in the city is forced to sacrifice the ground floor for the storage of automobiles. The entire city is built on a layer of garages which occupy what is generally considered to be the most desirable location in a building, namely the first floor.

There is a fairly limited range of solutions to this problem. The street experience could be improved by keeping the existing system and simply trying to minimize the number of curb cuts, but the first floor would still be wasted. Another more drastic solution would be to cut an alley through the block and park in the rear of the houses along the
alley. This is a common solution in many cities, however, it would be virtually impossible to accomplish in San Francisco, again because of the existing pattern of fragmented lot ownership.

Another solution is to have either covered or open parking in the setback zone between the house and the street. This is okay for one or maybe two cars per lot, and is a common pattern that already exists. Often an optional garage is added in the setback zone and a deck goes on top. This is a good solution, but still presents problems if you need more than one or two parking spaces, or if you want a commercial use on the ground floor at the street.

One last possibility, the one I chose to work with, is to have common parking on open lots between buildings. Parking spaces could be purchased or leased by residents on the block, similar to the way a parking garage works. There would be several advantages to this system. To begin with, the first floor of every building would now become usable. The economic advantages of this would easily offset the cost of the infill lots, and the street experience would be vastly improved. In addition, there would still be the option to park one car per lot in the
front setback zone between the building and the street. Houses next to the common lots would have the option to cover their personal parking spaces and have access directly to their units.
The Support

The problem was thus limited to the design of small-scale multiple interventions, and the heavy parking burden was relegated to common interior lots. With this decided I was ready to begin the design exercise. Although the principal objective of the exercise was to study the zone of the facade, I decided it was important to look simultaneously at the building behind the facade. While the facade can be conceptualized as an element discrete from the rest of the building, in reality it is not. The organization of the facade has immediate implications for the organization of the building plan, and vice-versa. The two have to work together and I felt it was important to show that, given a facade system that works, a reasonable counterpart could be devised in plan. For this reason, I developed along with the facade system a corresponding building plan.

The kind of building I chose to design is called a support. A support is a building which allows individual infill variations. The support structure offers a range of optional, yet predictable, positional and dimensional variations of elements and spaces within a larger built framework.
MODULAR COORDINATION

The layout of the support is based on an implicit 2x4 wood frame building system that is the dimensional standard for residential materials and construction in this country. The most basic modular unit in this system is 16", the dimensional spacing of vertical 2x4 studs. Three 16" modules aggregate to make a larger 4' module, a standard size for plywood, sheetrock, and various other sheathing materials. The 16"/4' module is adhered to throughout the design.

PLAN RELATIONSHIPS

The plan of the support is conceptualized as having distinct external and internal organizations. While the facade zone is fairly structured and takes most of its organizational cues from the Victorian residential prototype, the organization inside is somewhat more free and doesn't necessarily reflect this structure. In terms of context, the facade zone has priority, and because it is considered to be conceptually discrete, could accept any number of plan configurations behind it.
The zoning system is made up of two large outside zones with a smaller zone inside. The larger zones are at the outside walls to get the most light to the major living spaces. At the facade the zoning changes to accommodate the entry on one side, and the bay window on the other. The zoning diagram shows the options for locating the various rooms within the support.

In the lateral direction the support is composed of a primary room sector and a secondary access sector. Within the facade zone the room sector is 12' across with a projecting 8' wide bay, the access sector is 8' across, and there is a 4' side recess which
provides light to the inside zone of the support. The same basic sector organization continues inside. There is a primary open sector that corresponds roughly to the room side of the facade zone, and a secondary access sector that contains the stairs and corresponds to the entry side. Within this two-part support structure, a number of infill variations is possible. A few examples of these are illustrated, along with a parking solution.
Support plan and variations.
SECTIONAL RELATIONSHIPS

The support has three full floors with three optional arrangements of dwellings: two reciprocally defined units; three flats; or one large single-family house. In all three schemes the ground floor is fully used. The standard floor-to-floor height is 9', an 8' module plus 1' of structure, but steps up to 13' in front at the second floor. I attempted to create some kind of vertical spatial continuity within the support by creating an optional open zone around the stairs that runs the full height of the building.
THE FAÇADE SYSTEM

The façade zone in elevation was organized into two distinct systems: the framework which establishes a structure at the level of collective control, and the infill which allows for variations at the level of individual control.

Framework

The framework is made up of the three components of the façade zone in plan; the room sector, the access sector, and the side recess, projected up into elevation. All of the floor-to-floor heights are 9' except on the room side at the second floor. Here I went to a 13' floor-to-floor height to get a better relationship of vertical sizes and to acknowledge the contextual importance of the dominant second floor.

The framework is made of materials and forms that are acting in three capacities. First is concrete and concrete block coming up from the ground, acting as a foundation or base, and continuing up as groundform. I tried to get some of this well up into
the building to reciprocally define what is above. Above is wood construction which behaves in two ways:
a linear framework at the bay, entry, and upper
window that accepts lighter infill window screens and
is deployed wherever access for light and movement is
desirable; and a panel-like 2x4 wood-constructed wall
that is somewhere in-between the continuous surface
of the base and the linear framework of the bay.

At the roof I wanted a collective form that would
allow for a degree of lateral continuity. The gable,
which is a very common and distinctive Victorian roof
form, doesn't really do this. Flat roofs on
Victorians are rare, the cornice is usually hiding a
gable, so I decided to compromise and go with a shed
form that has a gabled dormer. The room under the
dormer becomes a loft space for the upper floor of
the support. This also eliminates the roof drainage
problems that would have been inevitable with real
gabled rowhouses.
Once the framework was established, the infill was conceptualized as a series of standardized plug-in components that could be manipulated independently within the framework. The bay, for instance, consists of two separate spatial zones: the structural framework that's controlled at the collective level, and the non-structural screen closure that has its own zone and is controlled at the individual level.
The infill system is based on a limited range of elements that go together in a limited number of ways. The first thing I did was to establish a series of use-heights for wall openings that correspond to 8" modular increments. These are as follows: 8" floor height, 2'-8" sitting height, 4'-0" counter height, 6'-8" door height, and 8'-0"/12'-0" ceiling height. Door height is established as the primary reference line in the vertical direction, and is never broken by an element. Based on my observations I decided that sill height in the bay window should never be higher than 2'-8".

I also decided that in aggregating elements laterally an 8" slack piece should always be positioned between elements. Given this rule and the fixed openings of the framework, I was able to determine the various possible combinations of element sizes in the lateral direction, and thereby establish a catalog of element sizes. Once the elements and system were set up, it was very easy to generate a series of facade infill variations.
Infill variations at the bay.
Facade variations.
3. SPECIFIC RULES AND GENERAL PRINCIPLES

A methodological analysis of the context to derive the implicit generating rules and principles.

With the design exploration finished I was ready to go back and do a formal analysis of the specific rules and general principles which are implicit in my design reference - the Victorian facade. I wanted to objectively describe the system I had thus far only intuitively interpreted. I selected for study ten buildings which I thought were representative of the Victorian residential type. These ten buildings have some obvious commonalities: they all have two main stories with a base and some kind of intensification at the top; each has a room sector with an extended bay, an access sector with a recessed entry, and a side recess; and they all have a fairly consistent range of elements and intensifications. On the other hand, a fairly broad range of dimensional variation is represented across the sample group.

The analysis is thus limited to a particular formal type, one which I became particularly fond of and
felt to be an appropriate contextual reference for the neighborhood. This is not to say it is the only, or the best, or even a correct reference. It is simply one I liked, and one that has a very clear set of generating rules. One might decide to draw from a completely different set of built references, but regardless, a similar method of analysis could be applied to describe the underlying rule system.
Rules

I began the analysis of the rule system by breaking the rules down into two levels of form: those at the level of the individual support, and those at the level of the collective tissue.

RULES AT THE LEVEL OF THE SUPPORT

The first thing I did was to break down the elevations of the ten houses into their component parts. I wanted to get two things out of this: a catalog of existing elements, and a comprehensive zoning system describing the range of relationships of elements to one another and to their respective sites.

What I found is that each elevation is organized vertically and laterally into three distinct categories; the elements, which consist of stairs, entry, canopies, doors, transom lights, windows, and garage doors; the sub-systems, which consist of elements aggregated to make up the bay window and
entry; and the system, which is composed of elements and sub-systems related to the overall site of the facade.

From this breakdown I was then able to develop a comprehensive catalog of elements and a zoning system that describes how the facade is generated. This was done, if you can envision, by taking all ten facades and "overlapping" them one over the other to obtain the range of dimensional relationships.

Elements in the sample were analyzed to determine the minimum and maximum vertical and horizontal sizes that represent the limits of the dimensional range within each group of elements. The various elements were then projected onto a zoning system to graphically describe the range of dimensional relationships between elements and facade site.
Stairs
Entry Porches
Second Floor Bay Windows

Ground Floor Bay Windows
Second Floor
Access-Side Windows

Desin's for Windows.
Vertical Zoning

Vertical zoning is broken down according to several reference lines. The primary reference line is the line of the first floor which is always read as the threshold of the main entry. Ideally all vertical zoning would reference off floor lines, however, the line of the second floor is rarely indicated on the elevation. For this reason, I use instead window head-heights as subsequent reference lines moving up the facade. Moving up from the first floor reference line, the sequence goes like this: first floor line to head-height of the first floor window, head-height of the first floor window to head-height of the second floor window, and head-height of the second floor window to the top of the cornice or gable. Moving down from the first floor reference line, the base and stair element extend to the groundline.

In addition to the zoning, two other rules must be added: one, the height of the second floor windows should always be less than or equal to that of the first floor windows; and two, the window above the entry should have the same head-height as those in the adjacent bay (the sill can be higher but is generally the same).
The vertical zoning system.
Lateral Zoning

The lateral zoning is broken down into three parts: the room sector which includes the bay sub-system; the access sector which includes the entry sub-system; and the side recess. I chose to establish the wall on the bay side as the reference line. Once the bay is sized and positioned, its edge becomes the reference line for the entry. The entry is then sized and positioned, and the side zone is referenced off either side of the primary facade front. The upstairs window on the access (entry) side is then centered over the entry sub-element.
The trick in all of this is one of relative sizes. The zoning must be segmented because of the margin or "slack" that must be included to account for the range of possible sizes. To design a Victorian elevation, begin by moving vertically up from the first floor reference line and make a decision, first, about the size of the elements within the dimensional range, and second, the vertical location of the elements within the prescribed zoning system. Then move on to the second floor and do the same, this time using the head-height of the first floor window as the new reference line. This process is repeated on to the roof and then down at the base. In the lateral direction the wall on the bay side is the reference line. Once the size and position of the bay is established, its edge becomes the reference line from which the entry moves. The side zone is then referenced off either side of the primary facade front. This leaves an elevation in which all of the dimensional relationships fall within the limits defined by the initial sampling of Victorian buildings.

During this process of establishing rules for the facade system an important issue which arose was that of differentiating between elements and
intensifications. A case in point is the cornice. It could be argued that the cornice is an element in its own right, probably at the same level as the bay and entry sub-systems. The cornice could also be viewed as a decorative intensification of the larger system, that is, of the facade site. Rather than an element added to the facade, it becomes an exaggerated built intensification - the same as the edge trim, only larger and more significant. In this particular case I took the latter position. Unlike the bay and entry sub-systems, the cornice and gable are merely extensions of the plane of the larger facade site; that is, of the wall proper. In this respect they are like the base, which is also an extension of the facade site. This is not to say that the notion of the cornice and roof as separate elements would necessarily be less appropriate in other contexts.
Depth of the Wall Zone

The final step in describing the facade system was to zone the depth of the wall in plan. This simply diagrams the range of depth of the three components of the wall zone: the wall proper; the bay extension; and the recess/extension of the entry.

Intensifications

Once the catalog of elements and the zoning system were established, the next task was to examine the system of intensifications. Intensifications in the Victorian facade system come either in the form of built decorative wood trim applique, or color.

To study the first, I went back to my ten houses and stripped them of all their elements, leaving only the decorative wood trim. There are a couple of important things to observe here. One, is that the intensifications are organized according to the same structure of levels as the overall system: there are clear and distinct intensifications of elements (doors, windows, stairs, etc.), of sub-systems (bay...
and entry), and of the system (the facade site). The other thing is that all of the intensifications are edge intensifications. At all three levels the elements, sub-systems, and system are bound by built edge zones of trim and elaborate decoration that serve to distinguish them from their respective sites. This ornamentation, if you will, always separates the element from its adjacent, more neutral site. The result is an effect of formal layering of elements and intensifications one onto another.

Color is then used to further intensify the differences between site, element, and intensification. Quite often each is a different color, but almost invariably the site is a different color from the elements and intensifications. It is particularly interesting to compare examples in which this color difference is not recognized. The built intensifications help, but the different parts of the facade are not as clearly articulated.
Families of Form

A final word should be said about rules regarding form families. Form families are categorizations of the generic ways in which form behaves. The range is defined by continuous surface at one end and linear framework at the other, with a series of transformations in-between that have some of the properties of both. In each of the ten buildings there are three distinct families that can be delineated: the continuous surface of the groundform and foundation at one extreme, the linear framework of the bay and entry at the other, and the panel-like skin surface of the wood constructed wall somewhere in-between. Each of the families is fairly self-contained and is not reciprocally defined by the others.

This is especially true of the continuous surface groundform which is very minimal and never gets above the first floor. The continuous surface materials, which are either concrete or unit masonry, occur only at the base and serve as the building's foundation.

The lighter wood constructed wall sits on top of the continuous surface base and is considered to be
the wall proper. It is technically constructed as a dense framework of 2x4 studs, but openings are generally punched holes that occur away from the edges, indicating that the wall is really acting as a continuous surface.

The wall proper then serves as the field, or site, onto which the framework elements are layered. Two things are important to notice here: one, the framework family is always logically deployed as an access form, either access for people as in the entry, or access for light as in the bay; and two, the linear framework only occurs at the level of the sub-system.

Scale: 1/16"=1'-0"
RULES AT THE LEVEL OF THE TISSUE

There are only a few rules at the tissue level that have a direct bearing on the design of the facade zone.

Front Setbacks

The first is the range of front setbacks. The Victorian residential type is almost always set back from the street, however, the exact dimensions of the unbuilt zone can vary considerably. An open/built zoning analysis was done for the ten sample buildings, indicating the maximum and minimum dimensions for the open zone between the building and the sidewalk.
Height

At the support level rules were given that established the dimension of elements, as well as the relationship of elements to one another and to the facade site. At the tissue level a further rule must be added about the overall height of the facade. This is similar to a zoning height restriction, only it gives a minimum as well as a maximum dimension. The range is indicated in the zoning diagram.

Direction and Orientation

Rules regarding direction and orientation are as follows. Houses are oriented in typical rowhouse fashion with minimal frontage to the street. The primary direction runs perpendicular to the street, and there is a directional privacy turn from the
public way into the direction of the house. Once inside there are other directional turns into the more private rooms of the house. Houses at the corners of the block are usually directionally the same as those in the middle, they simply face one street or the other. There are, however, exceptions, and it isn't all that unusual to find a side entry at a corner.

Typical series of directional privacy turns.

Clay Street: side entry at a corner.
Entry Privacy

The final rule stipulates alternating room and access sectors so that entries are not adjacent to one another. This is a very consistent pattern seen throughout the neighborhood, perhaps best on Sacramento Street. The places where this sometimes doesn't occur is when several houses are built in a single intervention and the builder is unaware of the implicit system that holds for separate multiple interventions. It can also occur when developments converge from opposite ends of the block, unaware of conflicting orientations.
Principles of Continuity

It was now useful to make explicit the overall principles within which the specific set of normative rules operate. These principles, which should be generalizable to any context, describe the intent of the rules in terms of the desirable formal qualities of the specific context. All of the principles, because the issue is one of context, are necessarily expressed as principles of continuity; that is, continuity with what already exists. The principles I came up with, like the rules, belong either to the level of the support or to the level of the tissue.

PRINCIPLES OF CONTINUITY AT THE LEVEL OF THE SUPPORT

Continuity of Elements

There should be a limited catalog of elements.
Continuity of Size and Positional Relationships

There should be a limited range of size and positional relationships between elements and their respective sites.

Continuity of Intensifications

There should be a consistent system of built and color intensifications.

Continuity of Materials and Form Families

There should be a consistent deployment of a limited number of materials and form families.
PRINCIPLES OF CONTINUITY AT THE LEVEL OF THE TISSUE

Edge Continuity

  a. In the lateral direction there should be a limited range of building setbacks which form an edge, or a virtual edge, that defines the positive open space of the street.
  b. In the vertical direction there should be a limited range of heights that form the vertical edge zone and define the upper limit of the spatial zone of the street.

Orientation and Directional Continuity

  There should be a consistent organization of directional relationships between the various privacy levels.
4. CONCLUSIONS

Based on a comparison of the analysis and projection, a discussion of the lessons to be learned from the context.
Going back now to the original question concerning the lessons that can be learned from an existing context, it is useful to compare the projection to the existing normative rules to see how the two deviate. Looking at the projection, there is little doubt that this is not a Victorian building. While the projection has many of the qualities of the Victorian prototype, that is, it follows many of the same rules, it clearly differs in some significant ways. I will talk about several of these differences to try to determine exactly which rules were broken and which were held constant, and what the projection is suggesting in terms of prioritizing the rules.

The assumption I am making here is that implicit in my design projection is a set of intuitive value decisions about the forms which I think are appropriate for the context. While the rules and principles are for the most part objectively defined, design is a subjective process. The goal is to make explicit what the value decisions are in this case, and how they break from the objective rules. The point is not whether you agree or disagree with my value decisions, that is, whether you think my particular design works well with the context or not. Anyone who disagrees with my projection could
do their own, compare it with the rules, and make explicit their value decisions. Given any set of values, the same method can be applied to make explicit what those values mean. Although the discussion that follows is not comprehensive, it gives a good indication of how such implicit decisions can be drawn out.

**Depth of the Wall Zone**

Perhaps the clearest difference is in the depth of the projected wall zone. The dimensional range of this zone is established in the rules as generally somewhere between 5' and 8'. I increased the depth to over 12' because I felt the Victorian facade is too frontal and is a little difficult to enter into. I wanted to pull back the access side to have a wall to move along to get into the building, and thought that enlarging the zone would make the entry on the whole more spatial. What is important to notice is that the relative position of the elements at all levels do not vary from the rules; the bay still projects, the entry is still recessed, and the wall proper is still somewhere in between. Nor do the
dimensions of the elements themselves change: both the bay and entry canopy are within the dimensional range prescribed by the rules. What does change are the dimensional relationships among elements and sub-system elements.

These changes are suggesting two things about prioritizing the rules: one, that in general position is more important than dimension, and two, that the dimensions of elements and sub-system elements are more important than the dimensional relationships among the elements.

The Bay Sub-System

A similar situation occurs in the lateral direction at the bay. Rather than center the bay on the room side of the facade I registered it off the outside wall. From the inside this focuses the view out in the direction of the unit's own territory, and makes the bay more usable by aligning it with an inside edge.

The only thing that has changed formally in the
facade is the dimensional relationship of the bay to the larger facade site system. The position of the elements and sub-system elements do not vary from the rules, nor do the dimensions of the elements and sub-system elements themselves change. This reinforces what was said about the depth of the wall zone: that in general, position is more important than dimension, and that the dimensions of the elements and the sub-system elements are more important than the dimensional relationships among the elements.

**Access-Side Window**

Another deviation from the rules occurs at the access-side window. According to the Victorian rule system the second-floor window above the entry is always a single element punched into the continuous surface of the wall proper. I wanted to open up the entire wall to make a more flexible framework/infill system similar to that of the bay. The result then, is the introduction of a new sub-system to replace the single element, and the transformation of form families.
The introduction of the new sub-system means that rather than one element, there is now an aggregation of elements. This change is of course reflected in the larger dimension of the overall sub-system element. But while the dimension and the nature of the element have changed, once again the position relative to the other elements has not. The position of the sub-system element is the same as that of the single window element. Again, position is more critical than dimension. Position is also more important than the nature of the element, that is, whether it is an element or a sub-system.

In the transformation of form families, the linear framework that is already used in the bay is transferred over to the new sub-system element of the window. The position of the framework has changed, but the form family itself is not new to the context. What is also not new is the way the linear framework is used only at the level of the sub-system, that is at the bay, the entry, and now the access-side window. Thus in terms of form families, it seems more important to deploy according to the levels of element, sub-system, and system, than to maintain any particular positional relationship of the families. The position of the
elements therefore determines the position of the form families.

Window Size

Another departure from the rules has to do with the window elements. Standard window heights are somewhat less than in Victorian times, and as a result, the dimensions of the catalog of elements changed. What did not change was the dimension of the element that finally got deployed. The shorter catalog elements were aggregated vertically to make a single virtual element that is within the range specified in the rule system. It follows, then, that the overall dimension of the element is more important than the nature of the element, that is, whether it is a single element or a series of aggregated elements.

Facade Organization

A final word should be said about the formal organization of the existing and projected facade
systems. No overall organizing concept was discussed in the generation of the rules, however, in the final comparative analysis it became clear that the projection was quite different from the Victorian prototype. In the Victorian prototype, the site (the wall proper) is always a neutral field upon which elements are imposed. Elements are conceptually discrete, and the site is a kind of slack between elements that allows the manipulation of one element without affecting the next. Such a system is based on the notion of object/ground, with element as object and site as ground. In the projection, the elements and site are more integrally and reciprocally defined. Elements are no longer discrete, and the manipulation of one element directly affects the next. This is a field organized system in which elements and site co-exist in an integral, non-hierarchical relationship. As in the previous discussions, the deviation from what exists indicates that in terms of priorities the formal system of organization is not considered to be as important as the positional and dimensional relationships which remained constant.
Summation

What I have tried to illustrate with the study is a working method to help in the process of understanding and transforming an architectural context. I have shown how the rules and principles that exist in a given context can be prioritized according to value decisions implicit in a design projection. The same method could be used to prioritize rules and principles in any context.

Understanding a context, that is, the principles and rules at work there, doesn't mean you have to strictly adhere to what exists. It's alright to diverge from the context, but by knowing explicitly what is there you are in a better position to determine what is contextually appropriate. Divergence becomes meaningful divergence, and what exists becomes a baseline from which projections can be evaluated. The whole set of related questions are thus addressed: Why is something working? Why is it not working? Are the essential continuities of the context being acknowledged? The answers are lessons learned from the context itself.