SUBURBAN DYNAMICS OF LAWN CARE

by

NATHAN BRIAN PIEKIELEK

(Under the Direction of TED L. GRAGSON)

ABSTRACT

In the face of a growing mass of evidence that implicates landscape maintenance practices in deleterious ecological effects, people's preference for the residential lawn aesthetic persists. What's more, alternatives to the residential lawn are typically met with resistance by neighbors. Mixed methods research performed in Peachtree City, Georgia; suggests that homeowners maintain their residential landscapes to signal pride and respect to neighbors and potential homebuyers. Important characteristics of this signal are an appearance of consistency, flow and balance. In order for residential lawn alternatives to be accepted, individuals and community designers alike must preserve these characteristics and promote the homeowner's ability to communicate desirable signals.

INDEX WORDS: Lawns, lawn care, landscape aesthetics, social process, lawn alternatives, New Town development, community design, sustainable development
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The University of Georgia
August 2003
DEDICATION

I dedicate this paper to everyone who has challenged me to work harder, believe in better and love with more passion.
ACKNOWLEDGEMENTS

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# TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS ........................................................................................................................................... v

LIST OF TABLES .................................................................................................................................................... viii

LIST OF FIGURES .............................................................................................................................................. ix

CHAPTER

1  Introduction ....................................................................................................................................................... 1

2  Background ..................................................................................................................................................... 3

   NEW TOWNS ................................................................................................................................................. 3

   PEACHTREE CITY ........................................................................................................................................... 4

3  Theory .............................................................................................................................................................. 10

   CONSPICUOUS CONSUMPTION ................................................................................................................ 11

   COSTLY SIGNALING THEORY .................................................................................................................... 14

4  Methods .......................................................................................................................................................... 18

   SAMPLE SELECTION ................................................................................................................................. 19

   INTERVIEWS ................................................................................................................................................. 23

   RANKING EXERCISE ................................................................................................................................... 27

   TEXTUAL ANALYSIS .................................................................................................................................. 30

   TABULAR ANALYSIS .................................................................................................................................. 33

5  Results ............................................................................................................................................................ 36

   TEXTUAL RESULTS ...................................................................................................................................... 36
LIST OF TABLES

Table 1: PTC Development History ........................................................................................................7
Table 2: Neighborhood Property Value Query Results ........................................................................20
Table 3: Neighborhood Age Query Results ........................................................................................21
Table 4: Neighborhood Test Sites ........................................................................................................22
Table 5: Participant Search ....................................................................................................................25
Table 6: Coding for Cultural Themes ..................................................................................................33
Table 7: Tabular Summary Results ....................................................................................................44
Table 8: Cluster Analysis Results ........................................................................................................45
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NL Most Preferred</td>
<td>46</td>
</tr>
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<td>NL Least Preferred</td>
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Chapter 1

Introduction

Landscape aesthetics have played an important role in the development of public and private land management for many years (Langston 1995). People's preference for and attachment to the residential lawn has been well documented (Henderson et al. 1998). The residential lawn requires intensive and continual maintenance. However, detrimental ecological effects of residential landscape maintenance practices have received increasing attention (Blanco-Montero 1995; Robbins 2001; Bormann 2001). In the face of ecological effects, even the environmentally aware seem to possess an unwavering preference for the conventional residential lawn aesthetic (Feagen 1999). This suggests that the lawn aesthetic serves some purpose; maybe one that's even more important than the ecological integrity of their surroundings for many people. What is this purpose and how did this aesthetic develop? Not until comprehensive answers to these questions are drafted can we devise alternatives to the residential lawn that will be widely accepted in American culture. This project aspires to shed light on the evolution of the lawn aesthetic, dynamics of residential landscape maintenance in suburban America and to provide suggestions on how suburban planning can facilitate the acceptance of lawn alternatives.

This research results from my involvement as a graduate research assistant in an EPA funded Watersheds and Waterways project (EPA #020019-01 1999) at the University of Georgia. The project was initiated following the observation by USGS
researchers that more pesticides are detected in waterways fed by urban and suburban watersheds in the Georgia piedmont than in waterways fed by surrounding rural agricultural areas (Hippe et al. 1994). The project chose Peachtree City (PTC), Georgia as its field site and sought to understand the relationships between residential lawn care practices and the physical and biological condition of surrounding waterways.

PTC is a planned, affluent, suburban community designed in the spirit of the New Towns development movement. This movement was a response to post World War II suburban sprawl and diminished quality of life for residents. New Towns were designed at the community level into neighborhoods, around service centers and into "super blocks" at the largest scale of organization. The New Town movement emphasized the importance of landscape aesthetics and environmentally sensitive design and development. According to the New Towns philosophy, PTC developers set aside about 3,000 of the community's 15,500 acres to be left as open space in the form of streams, greenways and parks to counter the "inadequate environmental controls" of unplanned suburban development at that time (Ewing 1991; Riley 1965: p14). In line with the New Towns movement, PTC is also a city of strict aesthetic regulation. The PTC Ordinance book contains a 12-section article titled "Cleanliness of Property" that in part outlines regulation of residential landscape maintenance practices (Municipal Code Corporation 2003). Neighborhood design, planned ecological preservation, and strong regulation of aesthetics make PTC an interesting case within which to explore the evolution of the lawn aesthetic and the dynamics of residential landscape maintenance.
Chapter 2

Background

PTC is a planned community within the Atlanta metro area designed according to New Town movement ideals to attract a diverse range of residents, businesses and industry. The design was organized at the level of neighborhoods intending to provide residents with a high quality of life alternative to the unplanned suburban growth that was occurring throughout the rest of the U.S. at this time. PTC's growth was initially slow but with passing time and changing regional conditions it soon became a success.

NEW TOWNS

The New Towns movement in the U.S. was influenced by a number of design concepts. Clarence Perry during the early 1900s promoted the use of the neighborhood as a planning unit by using design principles based on total areas, optimal numbers and the location of services. This was one of the first attempts to design neighborhoods. Radburn, New Jersey was designed in the "Super block" model that sent traffic around city centers rather than directly through them in an attempt to avoid the fragmentation of urban cores and thus build more contiguous communities. The eventual New Towns movement in the U.S. focused primarily on regional planning, decentralization away from existing overcrowded urban cores, limiting the size of new local development and redevelopment, the establishment of housing standards, strong control of aesthetics, and the preservation of the surrounding natural environment (Morley 1966).
The New Towns design ideal was ambitious. It's objective was to include many of the benefits of city life with some of the attractions of a rural existence while leaving most of the drawback of urbanism behind. New towns were supposed to contain a broad range of housing options and prices to attract a diverse set of residents of varying socio-economic and ethnic backgrounds, similar to larger urban cores. However, they were also intended to be places of balance, without the clustering of similar residents characteristic of urban areas. New towns were also supposed to be self-sufficient in order to provide jobs for the majority of its residents by attracting industry, retail, and services to the town itself.

Though existing in the realm of influence of a larger urban hub, New Towns were designed so that residents would have no need to travel to the larger city unless they wanted to. Small theatres, community colleges, intramural fields, walking trails and well-funded civic centers were included in New Towns to meet the cultural and recreational needs of residents. Finally, New Towns were to incorporate many of the benefits of a rural existence by respecting ecology and open space. Greenways and other permanent open spaces were designed to allow easy access to nature as well as to protect the ecological function of undeveloped land (Gladstone 1966; Conklin 1966; Finley 1966; Lemkau 1966; Simon 1966). PTC was designed in the New Town model and today has many features typical of New Town communities.

PEACHTREE CITY

PTC was designed in the New Towns model of the post World War II development era. This design movement came in response to unplanned sprawl suburbia characterized by "inefficient zoning, inadequate environmental controls,
mounting traffic and commercial encroachment” (Phipps Land Company 1972). Peachtree City (PTC) is a suburban community in southwestern Fayette County Georgia 15 miles southwest of the Atlanta city limits and part of the metro-Atlanta area. PTC is the product of a joint real estate venture began in 1957 by several local developers led by Joel Cowan. They established the Fayette County Development Corporation and bought 15,000 acres of land in what was then rural southwestern Fayette County. The city was formally chartered on March 9, 1959 and development started soon thereafter (Ewing 1991). PTC was developed around the main east-west transportation artery of Georgia state highway 54 and main north-south artery of Georgia state highway 74 along PTC’s western extent (Riley 1965).

When PTC development began, Atlanta was the 22nd largest metropolis in the U.S. with thriving industry, merchandising, wholesaling, medical service, and office operations. It also had well-developed lines of transportation connecting it with the rest of the country. Of significant interest to the PTC developers, Atlanta seemed to be developing southward, towards the PTC site. The I-285 beltway around Atlanta was under construction, which when finished would make Atlanta all the more accessible to PTC residents, and PTC more accessible to Atlanta interests.

PTC development was organized into four villages similar to Radburn’s "Super blocks” that were built around various lifestyle choices with recreation as a dominant theme in each. Two were to be built around golf courses, one around equestrian trails, and one around wetlands that would provide for more “passive recreation.” Each village
would be served by a community retail center containing stores, restaurants, and office space. Each village would also be home to a junior and senior high school. An industrial park was planned for the western edge of the city for which firms were to be selected based upon controlled, but reasonable standards to govern the amount of noise, smoke, noxious gases and outdoor industrial activity that could take place at these sites (Phipps Land Company 1972).

Residential development within villages was structured in neighborhood clusters of 1500-2000 families. Roadways in each cluster were designed to accommodate local traffic while collector streets were directed around clusters. Each cluster was built around a “Maxi-center” where residents could have easy access to convenience shopping, recreational facilities, and elementary schools. In the New Town model, PTC’s development plan intended to provide a variety of housing types and rental prices within and across neighborhoods from single home estate lots, to townhouses and apartments that would respond to the preferences and demands of the market. Neighborhoods were all to have distinctly different feels to them while not being internally homogeneous. High rent and low rent properties were to be spread out throughout the city’s many neighborhoods (Phipps Land Company 1972).

Table 1 summarizes PTC’s development history. Developers attribute much of the rapid growth of the 1970s and 1980s to the $20 million dollars spent on the expansion of the Hartsfield International airport in the industrial corridor south of Atlanta and easily accessible from PTC. Hartsfield quickly became the nation's busiest airport and the south's gateway to the world. By 1990, 60 percent of families in PTC had at least one household member working in the airline industry. Many of the companies that located
in PTC's industrial corridor did so to have easy access to Hartsfield (Ewing 1991). PTC is presently home to approximately 36,000 residents. An estimated additional 1,200 acres along the city’s northwest border are being considered for further development, which would bring another 4,000 residents to the city.

Table 1. PTC DEVELOPMENT HISTORY

<table>
<thead>
<tr>
<th>DATE</th>
<th>OWNER</th>
<th>NUMBER OF NEIGHBORHOODS BUILT (*)</th>
<th>U.S. CENSUS POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>Bessemer Securities of New York</td>
<td>13 (614)</td>
<td>794</td>
</tr>
<tr>
<td>1970</td>
<td>Bessemer Securities of New York</td>
<td>37 (1,631)</td>
<td>6,500</td>
</tr>
<tr>
<td>1980</td>
<td>Equitable Life Insurance Company</td>
<td>108 (5,154)</td>
<td>21,000</td>
</tr>
<tr>
<td>1990</td>
<td>Pathway Communities</td>
<td>162 (8,189)</td>
<td>31,500</td>
</tr>
<tr>
<td>2000</td>
<td>Pathway Communities</td>
<td>164 (8,201)</td>
<td>31,580</td>
</tr>
</tbody>
</table>

* Number of properties developed

(Ewing 1991; Reinberger 2002; PTC Engineering Office 2002)

PTC development is organized into four villages with 3,000 of the original 15,000 acres left as parks, greenways, and other open space. Streets are all curvilinear with main streets providing for the collection of traffic and most side streets being dead end cul-de-
sacs. There are three golf courses, two lakes, a 2,200 seat amphitheatre, over 70 miles of
golf cart paths, a tennis center, an indoor swimming complex, a BMX track, a skate park,
and a multitude of other neighborhood parks and recreation facilities. The golf cart paths
are a dominant and familiar feature of PTC. They traverse the entire city providing
access to not only open space and recreational facilities, but also service centers. This
common space provides chance social interactions and a feeling of community for many.

In 1976 Better Homes and Gardens and the National Association of Home
Builders presented their Grand Award to PTC for the genius of its planning and the
quality of its development (Ewing 1991). PTC has achieved many of the New Town
ideals of creating a sense of community, providing many cultural and recreation
opportunities within the city, retaining a desirable aesthetic throughout the city and
preserving open space that's easily accessible to residents. Nevertheless, it has fallen
short of some of the New Town ideals. Much of the multi-family housing and lower
income housing that was planned was never developed. PTC is not self-sufficient since
many residents work and shop outside of the city limits and the tight clustering of homes
that is one of the trademarks of New Towns was quickly abandoned in favor of larger
lots.

One of the primary hurdles faced by other New Towns in the U.S. was working
with local governments to modify existing zoning and code to accommodate cluster style
development. It was sometimes difficult to convince local governments that feared
unwanted development that the open space characteristic of New Towns was going to be
left as open space. PTC is unique in this respect. In 1959, in order to meet the
requirements for incorporation, a single home was hastily built for the city’s first mayor
who also happened to be one of the original developers. Thus, from the very beginning of PTC development, developers and government have worked in partnership with common interests. In this partnership PTC’s developers have built roads and recreation facilities and donated them to the city to manage and maintain. In return PTC’s government has worked hard to keep tax rates low, which has proved to be a good selling point for developers. PTC developers had more leeway to design around the principles of the New Towns movement than most New Town developers in the U.S.

Two of the main objectives of the New Town movement were to create suburban developments sensitive to local ecology, and which were aesthetically pleasing. PTC approached these two goals through the preservation of open space in its initial development and through the regulation of residential landscape maintenance practices. Recent research has brought into question the ecological effects of intensive residential landscape maintenance. If PTC’s development goals of ecological sensitivity and the preservation of aesthetics are incompatible how then should planned development proceed in order to meet these objectives? To address this question we must first explore people's motivation to maintain their residential landscapes as well as the evolution of this distinct preference.
Chapter 3

Theory

The residential lawn is a naturalized artifact of contemporary western culture, and our attachment to and preference for this landscape style has been well documented (Feagen et al. 1999; Henderson et al. 1998). Where does this preference come from and why are we so attached to it? Why do we continue to mow our lawns? Some theory suggests that our landscape preference developed in part as a result of our relationship with similar landscapes in our evolutionary past (Kaplan 1972; Wilson 1992). Other theorists have linked landscape maintenance practices to social dynamics of aristocratic old England whereby homeowners displayed their wealth and power to other social elites through the ornate maintenance of their residential landscapes (Veblen 1992). Finally, costly signaling theory suggests that contemporary residential landscapes are sites of information transfer between homeowners.

There is consensus that people prefer, and find more beautiful, landscapes that are characterized by openness, even ground cover, occasional groupings of trees and an overall impression of moderate to high landscape complexity that retains legibility and an element of mystery (Balling 1982; Parsons 1995; Ulrich 1977; Kaplan 1998). Landscapes bearing these characteristics are said to be “park-like.” Kaplan (1972; 1973; 1976) and Wilson (1992) take an evolutionary perspective emphasizing the importance of park-like landscapes to the survival of our predecessors to explain our apparent aesthetic preference for this landscape type. Kaplan points to the evolution of humans’ cognitive
skills for collecting and assimilating large amounts of information in a landscape while still having some opportunities for cover to escape predation. A park-like landscape lends itself well to the accomplishment of these two endeavors. Wilson on the other hand, writes about edge habitats that often border park-like landscapes as the former feeding grounds of humans with an abundance of species and resources.

Balling (1982) attempted to test an evolutionary landscape preference by hypothesizing that it would be expressed more prominently in younger children who have experienced less socialization of preferences. His results suggest that although we may all be born with some evolutionary predisposition to prefer certain landscape characteristics to others, as adults it is more likely that life experience, familiarity and learned behavior play a larger role in determining landscape preference (Helson 1964; Hammit 1979; Zajonc 1968). Our prehistoric ancestors may have preferred park-like landscapes because they were dependent upon them for survival, but humans soon learned they could manipulate their natural environment for survival. After the Industrial Revolution not only were people no longer dependent on certain landscapes for survival, but some even had the luxury of manipulating their natural environment for other than survival purposes. It was likely at this time that we learned to appreciate landscapes for reasons other than their survival value paving the way for the development of conspicuous consumption.

CONSPICUOUS CONSUMPTION

Writing at the end of the 19th century Thorstein Veblen asserts that to gain and hold the esteem of people it is not sufficient to merely possess power and wealth, it must
also be evident. The evidence comes in the form of visual cues or signals that are easily perceived by others such as the elaborate ornamentation of material possessions, the donning of extravagant jewelry and the development of a highly sophisticated landscape aesthetic. Residential landscapes are therefore sites of important information transfer and can be thought of as costly signals. It is based upon these signals that the public constructs the reputation of the signaler. To intensively maintain a residential landscape at the end of the 19th century meant a tremendous waste of resources that only the wealthiest and most powerful could endure, thus signaling that the property owner possesses power and wealth.

Veblen's theory is based on the development of what he calls a leisure class. Post-industrial revolution elites in Europe gained tremendous amounts of wealth, moved away from the increasingly polluted urban centers, and engaged in leisure activities rather than work. Veblen argues that people associated labor with weakness and subordination to a master. The conditions that must be present in a given culture in order for a leisure class to emerge are:

1) The community must be of a predatory habit of life (either by hunting, exacting warfare on others, or both)

2) Subsistence must be sufficiently easy so as to excuse a large portion of the population from steady subsistence level labor.

The defining characteristic of leisure class members is their conspicuous absence from productive work. Their absence becomes the index of reputability that people use to differentiate between social classes. Conspicuous absence from labor does not
however, help to differentiate between members of a single social class. To explain how this comparison takes place Veblen describes what he calls conspicuous consumption.

Conspicuous consumption describes wastefulness not of labor energy, but of consumer goods. Veblen argues that wasteful consumption is ceremonial in nature and that it is an adaptation by a selective process of reputability. That is to say that wasteful consumption is a manner in which social elites of the late 19th century established pecuniary reputations with one another. It was based on this pecuniary reputation that strategic decisions were made. In this way Veblen's theory of conspicuous consumption involves signaling where the honesty of the signal comes in the cost of the signal itself (the wastefulness of consumer goods).

Conspicuous consumption need not be intentionally or consciously wasteful, although many cultural customs including the wearing of jewelry, the maintenance of lawns, and the styling of hair are all wasteful according to Veblen’s definition. Veblen states that something is wasteful when the following question cannot be answered positively regarding the expenditure in question: "Does the expenditure improve human life on the whole?"

Veblen's theory of conspicuous consumption interprets the intensive maintenance of residential landscapes as wasteful advertising or signaling of power and wealth. Based on these signals social elites of the late 19th century developed pecuniary reputations with one another. Based on these reputations strategic decisions to establish and maintain relationships were made. Thus the residential lawn aesthetic evolved during the late 19th century as a costly signal used by social elites to convey information to one another about pecuniary status and power.
COSTLY SIGNALING THEORY

Conspicuous consumption is a costly signal. Costly signaling theory (CST) is based on the handicap principle of Zahavi and Zahavi (1997) that emphasizes the evolutionary importance of mate selection as opposed to the importance of the survival of individuals as proposed by Darwin. CST describes evolutionarily stable strategies for honest information transfer that has been used to explain the existence of seemingly uneconomic traits and behavior in animals and human culture. CST follows these principles (Bird et al. 2001; Hawkes et al. 2002):

1. Evolutionarily stable signals must be honest
2. A signal is honest if it can be used to determine the true quality of the individual
3. Advertisers have a strategic choice of their level or intensity of advertising
4. An individual who advertises more will experience an increase in “fitness”
   (defined as persistence of genotype in future generations)
5. Advertising must be sufficiently costly as to discourage bluffs

Testing Veblen's theory with the above principles, old England social elites spent vast amounts of money and labor on the ornate decoration and maintenance of their residential landscapes. Due to the lack of technology at this time someone who was not a social elite was unlikely to have the ability to fake this aesthetic. The cost of the endeavor establishes the honesty of the signal that the homeowner of an intensively maintained residential landscape of old England possessed power and wealth. What's more, social elites had a strategic choice of how many resources to invest in landscape maintenance and therefore how intense or extravagant to make the signal. Those who
invested more were rewarded by establishing a more desirable pecuniary reputation with other elites and reaping whatever socially mediated benefits were associated with that reputation. Veblen's theory of conspicuous consumption is a CST.

Numerous aspects of human cultural and behavior consistently appear in violation of Darwinian-inspired theories of foraging strategies and the principle of least effort. A brief exploration of this research helps to clarify CST. An historical example comes from the Ancient Mayan cultural practice of dated monument building; a resource intensive undertaking that served no apparent utilitarian purpose.

Mayan kingdoms were roughly organized into resource catchments. Elites were attracted to catchments that contained the richest and most abundant resources, but once they left their familiar catchment where they were well known and possibly surrounded by kin and other non-competitors, they needed to advertise their power and wealth. Similarly, newcomers to a given catchment needed to assess the power and wealth of existing catchment elites. The need for this advertisement came in elite's need to avoid direct conflict that was unlikely would result in victory as well as to establish social ties and alliances. Similar to the aristocrats of old England maintaining their residential landscapes, Mayan elites built monuments as wasteful advertising to signal their power and wealth to other elites (Neiman 1997).

Bleige Bird et al. (2001) describe the hunting customs of the indigenous Meriam tribe of Torres Straight, Australia. Almost 80% of Meriam men spend all of their food foraging time spear fishing, and fish is often shared among families. Women on the other hand spend most of their foraging time collecting shellfish, which is not shared. In terms of net calorie gain, fulfillment of macronutrient needs, and financial value as a trade
commodity shellfish collecting seems to be the optimal foraging strategy for the Meriam people. What’s more, Bleige Bird et al. could not determine that there were any management or resource issues prohibiting both men and women from gathering shellfish. Choice of food foraging strategies of the Meriam is understood through CST.

Spear fishing requires a great deal of skill, strength and patience, giving Meriam men an opportunity to differentiate themselves from one another in terms of skill, strength and patience. As a sub-optimal foraging strategy Meriam men bear the cost of food stores that were not gathered while spear fishing, but they reap socially mediated benefits. Speared fish are carried back through the village for everyone to see. When surveyed, 75% of respondents identified the most frequent spearfish signaler (most frequent spearer of fish), as the best spear fisher (which carries great social status), while less frequent signalers were not mentioned at all. When asked to nominate the best shellfish collector, many responded that collecting shellfish depends only on time spent and not on skills inherent to the hunter. More frequent spearers of fish established reputations with villagers as being skilled hunters. It appears that Meriam men choose to spear fish instead of collecting shellfish in order to offer differentiation amongst them. Hunters who signal frequently are rewarded with benefits of recognition, reputation and other socially mediated benefits (Bliege Bird et al. 2001).

Human behavior often appears to be irrational or non-utilitarian, yet when one searches for meaning in the behavior, sometimes it involves complex signaling serving the purpose of information transfer. The value of this information comes in its ability to help people differentiate between others based on characteristics or qualities. In aristocratic old England and classic Mayan cities this was power and wealth and in the
Meriam tribe it was skill as a hunter. This information helped people make strategic decisions regarding the establishment and maintenance of relationships affecting mate selection and conflict avoidance. In contemporary western culture the residential landscape has become a complex signal containing information about the homeowner. How are these signals constructed, what do they mean and to whom?
Chapter 4

Methods

This research project takes a pragmatic perspective on claims making. It uses a concurrent nested mixed methods approach to research design in an attempt to both explore and explain the research problem. A pragmatic perspective allows for the adoption of different epistemologies depending on the method being employed and the part of the project in which it is found to be useful (Creswell 2003). The project came about as a result of my involvement in an EPA Watersheds and Waterways project (EPA# 020019-01 1999). Four neighborhoods in PTC were selected based on their age, property value and presence of a homeowners association. Residents of each neighborhood were interviewed in an active and collaborative way asking them questions about their landscape preferences, community dynamics and motivation for maintaining their residential landscapes. Participants also completed a ranking exercise, placing a set of 13 landscapes in order of quality of landscape maintenance. Interviews were taped, transcribed and loaded into QSR Nvivo 2.0 for analysis. Data from the ranking exercise was summarized and analyzed using Microsoft Excel, ANTHROPAC 4.0 and SPSS 11.0 for windows. The results provide insight to homeowner's motivation for maintaining their residential landscapes as well as quantitative means with which to compare within and between group preferences.

The research design for the EPA project was spatial in nature and established in stream test site locations downstream of neighborhoods of upper, middle and lower
property values. Spatially explicit social and development data was obtained in 2001 from the PTC Engineering Office and imported into ArcGIS 8.1 where it was manipulated and modified. Using this data I developed databases of potential homeowner interview participants based on their geographic location. During the spring, summer and fall of 2002 I participated in the development of a homeowner interview protocol that addressed beliefs, values and lawn care practices. Along with fellow researchers I conducted the interviews (I did 10). I was also involved in the preliminary analysis of the resulting interview set. My involvement in the EPA project helped me to begin to understand the dynamics at play in PTC and played an important role in the development of my research proposal, questions and interview protocol.

SAMPLE SELECTION

The development of my homeowner interview protocol was influenced by my experience with the EPA interview protocol as well as exposure to a large set of literature on residential landscape maintenance, CST, and an economic theory of conspicuous consumption (Neiman 1997; Bliege et al. 2001; Cox 1988; Feagen et al. 1999; Hawkes 2002; Jenkins 1994; Nassauer 1988; Pugh 1988; Tuan 1984; Veblen 1992; Zahavi et al. 1997; Zymyslony et al. 1998, 2000). The core of my protocol focused on homeowner preference and motivation to maintain residential landscapes.

Four neighborhoods were selected based on three selection criteria: neighborhood age, property value and the presence of a homeowner's association. Neighborhood age was included as a surrogate for length of residence while property value was an indicator of socio-economic status. The four neighborhood test sites were selected to extenuate
contrasts in the two selection factors with a test site to represent each possible combination. The presence of a homeowner's association was included due to its impact on neighborhood regulation of residential landscape maintenance and social process.

1999 Fayette County Tax Digest data (Fayette County Tax Office), for Peachtree City was aggregated by neighborhood using construction and development data provided by the Peachtree City Engineering office and using ESRI’s ArcGIS 8.1 software. A Jenks five class natural breaks classification scheme split the average total property value data into five classes based on natural breaks in the data’s frequency distribution. Table 2 shows the properties of the resulting high and low property value classes.

<table>
<thead>
<tr>
<th>CLASS</th>
<th># NEIGHBORHOODS</th>
<th>MEAN PROPERTY VALUE (s.d.)</th>
</tr>
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<tbody>
<tr>
<td>LOW</td>
<td>45</td>
<td>$140,000 ($15,000)</td>
</tr>
<tr>
<td>HIGH</td>
<td>21</td>
<td>$353,000 ($53,000)</td>
</tr>
<tr>
<td>PTC</td>
<td>164</td>
<td>$213,000 ($98,000)</td>
</tr>
</tbody>
</table>

There was no significant development in PTC until the 1970s. For the sake of this project, neighborhoods developed before 1980 were considered old, and neighborhoods developed during or after 1990 were considered new. Table 3 shows the number of potential neighborhoods in each query class.
Table 3. NEIGHBORHOOD AGE QUERY RESULTS

<table>
<thead>
<tr>
<th>CLASS</th>
<th># NEIGHBORHOODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW/LOW</td>
<td>6</td>
</tr>
<tr>
<td>NEW/HIGH</td>
<td>12</td>
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<td>OLD/LOW</td>
<td>16</td>
</tr>
<tr>
<td>OLD/HIGH</td>
<td>6</td>
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</tbody>
</table>

I was interested in conducting my research in areas that were in some way geographically isolated. To meet assumptions inherent to CST, individuals needed to be familiar with each other and perceive themselves as some kind of group as distinct from other groups (Hawkes et al. 2002; Bleige et al. 2001). Zymyslony et al. (1998; 2000) observed that urban roadways that carried through traffic could act as social barriers in community front yard landscape composition and design. I therefore hypothesized that residents of a cul de sac or isolated loop street would provide the best population to work with because of their familiarity with one another and the possibility that they would perceive themselves as being a distinct group or community.

I continued the neighborhood selection process by choosing two neighborhoods from each query class that had both a geographically isolated cul de sac of good size, (considered to be over eight properties in order to ensure sufficient participation), that represented well extremes in the two selection criteria. I also tried to select some neighborhoods that had homeowners associations and some that did not. Following the identification of two possible neighborhood sites in each class I traveled to PTC.
During this visit I visually inspected test sites (which were cul de sacs or loop streets within neighborhoods), and the greater neighborhoods for consistency and apparent conformity to research assumptions concerning a feeling of community.

Following this visit I chose the following four neighborhood test sites. Table 4 shows the properties of the four selected neighborhood test sites.

Table 4. NEIGHBORHOOD TEST SITES

<table>
<thead>
<tr>
<th>SITE</th>
<th># PROPERTIES</th>
<th>MEAN PROPERTY VALUE (s.d.)</th>
<th>YEAR OF DEVELOPMENT</th>
<th># NAMES (*)</th>
<th># POTENTIAL PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW/LOW (ON)</td>
<td>30</td>
<td>$138,000 ($18,000)</td>
<td>1994</td>
<td>24 (17)</td>
<td>14</td>
</tr>
<tr>
<td>NEW/HIGH (NH)</td>
<td>15</td>
<td>$414,000 ($139,000)</td>
<td>1990</td>
<td>15 (13)</td>
<td>11</td>
</tr>
<tr>
<td>OLD/LOW (OL)</td>
<td>18</td>
<td>$119,000 ($92,000)</td>
<td>1960</td>
<td>18 (15)</td>
<td>13</td>
</tr>
<tr>
<td>OLD/HIGH (OH)</td>
<td>18</td>
<td>$371,000 ($53,000)</td>
<td>1978</td>
<td>18 (14)</td>
<td>14</td>
</tr>
</tbody>
</table>

* Number of telephone numbers in PTC phonebook

The 1999 Fayette County Tax Digest data was used in combination with PTC Engineering Office data to obtain homeowner names and addresses for properties from each neighborhood. The dataset indicated that mortgage companies owned some properties while builders owned others. The 1998-1999 and 2000-2001 Fayette County Telephone books were used to obtain homeowner contact telephone numbers some of
which proved to be disconnected, others wrong numbers and still others reached people who had since moved out of PTC, but kept the same telephone number. I aspired to conduct three to four interviews in each neighborhood.

INTERVIEWS

I viewed homeowners as participants or narrators, actively involved with me in the construction of knowledge and understanding, rather than informants who passively provided me with a window through which I could peer into their lives (Hostein 1995). This seemed to be a desirable approach for several reasons. First, the core of my protocol asked difficult questions about which I didn't think many participants had spent much time thinking. For example, “What motivates you to maintain your residential landscape in the manner that you do?” may seem like an obvious question, but it asks about normalized behavior that we face everyday and whose meaning many of us take for granted. When faced with this type of question we are forced to be reflexive and deconstruct a dynamic in which we are intimately involved. For these reasons I felt it necessary to provide participants with an opportunity to talk things through, actively constructing and sometimes deconstructing, meaning as we went. I practiced reflexive listening and had built checks into my protocol to provide numerous opportunities for participants to reevaluate or modify previous answers. Many did this by “trying on” several answers to see how they “fit” before coming to a conclusion with which they were comfortable.

Before any homeowners were contacted, the project received approval from the University of Georgia Institutional Review Board (IRB) to use human subjects for a
Homeowners were “cold called,” given a brief description of my thesis project, a brief description of the interview process and asked if they would be willing to participate. The only difference in this process across groups was in the NH neighborhood where I first contacted the representative of their homeowners association. My interaction with the homeowner’s association representative confirmed contact information for homeowners and provided me with recommendations on who to contact. The representative also indicated that she would mention my project to homeowners along with a word of personal endorsement and encouragement to participate.

All numbers on each list were called a minimum of three times unless sufficient participation had already been attained in that neighborhood. Once interviews began I asked participants to refer me to other homeowners in the neighborhood who they thought would be willing to participate. If the participant was willing, I also asked that they mention the project and their interview experience to neighbors in order to facilitate familiarity with the project and participation. Table 5 shows the rates of participation that I attained in each neighborhood.

OL residents were primarily elderly and scheduling interviews was difficult due to persistent personal and family health issues. NL residents were typically young and eager to help; I also scheduled more interviews by referral in the NL neighborhood than in any other neighborhood. Many OH residents were middle-aged and were employed in the airline industry as is typical of PTC residents. All participants appeared to be of Caucasian ethnicity.

I did not conduct any interviews within the NH neighborhood. My limited experience of NH homeowners was distinctly different than other neighborhoods. I
rescheduled interviews at other test sites, but never had a participant not show up for a scheduled interview (I had three no-shows in the NH neighborhood). What’s more, this was the only test site in which I started with a good contact, references and an endorsement from the homeowner’s association representative. I was surprised at the lack of participation that I achieved in the NH test site. This result is at least anecdotally supported by participant’s passing reference to newer high property value PTC residents as being “a different brand of people.”

Table 5. PARTICIPATION

<table>
<thead>
<tr>
<th>NEIGHBORHOOD</th>
<th>NUMBER OF HOMEOWNERS SPOKEN TO ON PHONE</th>
<th>NUMBER OF HOMEOWNERS THAT DECLINED AN INTERVIEW OUTRIGHT</th>
<th>NUMBER OF INTERVIEWS SCHEDULED</th>
<th>NUMBER OF INTERVIEWS CARRIED OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NL</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>OL</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>NH</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>OH</td>
<td>10</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

All interview participants received a confirmation call the night before a scheduled interview. Upon my arrival participants were asked if they had any questions or concerns. If they didn't they were asked to sign “Informed Consent” paperwork that addressed IRB expectations and asked for permission to audiotape the interview. I signed the IRB forms as well and we each kept our own copies. Following these formalities
participants were asked a series of 18 questions about their residential landscape
maintenance behavior and motivation, their preferences for properties in their
neighborhood, and some personal background questions pertaining to occupation,
educational background and landscape maintenance training (see Appendix A for a copy
of the protocol). Questions were asked loosely in order, but if a question came up out of
order it was addressed to maintain the conversational flow of the interview. Participants
were allowed substantial freedom to stray from the subject in order to provide them an
opportunity to address topics that they felt were important beyond the topics that I
brought to the project.

Interviews all took place at the residence of the participant, typically in the
kitchen or living room area. In three cases I dealt with more than one participant. In two
of these cases I was speaking to a husband whose wife joined us unexpectedly part way
through the conversation and contributed significantly from that point on; in the last case
I began speaking with a couple together and the wife left partway through the
conversation (interestingly enough I had scheduled the interview, and dealt exclusively
with the wife preceding the meeting). I spoke with nine men and five women including
both members of couples with whom I spoke. Participants appeared in age to be from
their early thirties to their late sixties. All participants also appeared to be of Caucasian
ethnicity.

Everyone was very agreeable and readily welcomed me into their homes. Some
participants started out in a more hurried manner than others, but all but one quickly
warmed up to the subject and spoke comfortably and at length (the one exception to this
was the aforementioned man whose wife had scheduled the interview and then left
partway through). Quite a few participants had a lot to say about the topic while others seemed to just want to help me out. I was pleasantly surprised by the extent to which participants engaged the subject and provided insightful answers to my questions.

Throughout the interview process I maintained two sets of field notes. The first consisted of a standardized data collection sheet that had been largely inspired by the EPA projects’ interview methods (EPA # 020019-01 1999). This sheet had spaces to record the demeanor of the participant, décor of the home interior, notes on the appearance of the home’s landscape and general impressions. These sheets were filled out immediately following each interview. I also maintained a small notebook for each neighborhood in which I not only recorded pertinent information (such as contact numbers and changed addresses), but also general impressions of the test sites including their defining characteristics and the relationships and dynamics that I began to understand in each situation. Notes were recorded in these notebooks following each interview and also at other times when clarity was gained.

RANKING EXERCISE

A self-designed incomplete block design with 13 items ($\lambda = 1$), and four images per block was used as described in Weller and Romney (1988) to construct the ranking exercise. The incomplete block design is a method of obtaining a ranking of stimuli from participants without asking them to rank all stimuli at once. Instead, participants are presented with in this case, sets of four stimuli that they are asked to rank. Once they have completed the exercise they have reacted to each stimuli in comparison to every other stimuli providing the researcher with the information necessary to create the
complete rank. In this way, researchers are able to attain accurate rankings of many stimuli in a way that is more easily understood and achieved by participants.

Images of all homes and properties in each neighborhood were taken from the street on two different dates in October 2002. On one date images were captured during mid morning hours and on the other they were taken during the evening. Light conditions for both photo shoots were similar, partly cloudy skies and a sun that was low in the sky. My intent was to capture as much of the landscaping of the property as was possible. This was achieved with a high degree of consistency in the NL and OL neighborhoods where lot sizes were fairly small. This task was more difficult however, in the OH and NH neighborhoods where lots were larger and more irregularly shaped. All images were captured using a Canon digital camera set to capture “raw” digital images as opposed to compressed. This was done to allow for better image processing and enhancement once the images were brought back to the lab. Based on quality of the image and how well it represented the rest of the property's landscape, ten images were selected from each neighborhood. In addition to these ten, three images of landscapes in PTC, but not within neighborhood test sites were included in order to have a set of common stimulus across neighborhoods. This would provide me with information on how participant preferences differed across neighborhoods.

Canon Utilities RAW Image converter was used to convert the image data to TIFF files. Each resultant TIFF file was approximately 11 megabytes in size. These image files were then imported into Adobe Photoshop 5.0 where image processing was performed.
Photoshop’s ‘Auto Levels’ adjustment was used to balance the colors of the images. This tool uses the color level frequency distribution for each image, labeling the darkest pixel in the image as black and the lightest pixel as white and redistributing the color levels of all other pixels in the image proportionately. The operation serves to eliminate “washed out” areas of an image and to lighten dark areas that may have been well shaded when the image was captured.

The ‘Sharpen More’ filter was used to make transitions in color such as bed and sidewalk edges sharper. The filter identifies adjacent pixels with very different color levels and increases this difference, thereby giving the impression of sharpening areas of the image where edges appear. The filter was applied in order to sharpen areas of residential landscapes that are often edged so that participants could better assess the quality of the edging job. The results of this image-processing step made areas of transition far more clear and did so in a way that did not appear to be a fabrication of what was really on the landscape.

Finally, a grain ‘texture’ filter of intensity 40 and contrast 50 was applied to images to bring out more detail in the grassy portions of landscapes. A texture filter can be used to make an image appear as though it were projected onto an uneven surface. Many of the grassy portions of the landscape images prior to the application of this filter appeared to be solid blocks of color with little texture to distinguish between grass varieties. Grassy portions of the images following this routine gained enough texture to not only be able to distinguish between varieties of grasses, but to also be able to distinguish the consistency of grass height. Images were then resized to a resolution of 206 pixels per inch (ppi) and saved as JPEG files of approximately three megabytes each.
According to Adobe’s 5.0 Photoshop help files an image resolution of 150ppi is sufficient to achieve good results when printing on a 600dpi printer.

The images were inserted into Microsoft Powerpoint and an ID number was randomly assigned to each image and included on the image itself. Epson photo quality paper was used to print four images per page (according to the incomplete block design with four images per block), on a Hewlett Packard Color LaserJet 4550 PCL printer capable of printing 600 dots per square inch (dpi).

Microsoft Excel was used to create a response form consisting of two response columns. One column contained a space for the participant to rank each set of four images from least well-maintained to most well-maintained and a second column titled ‘Descriptors’ provided space for participants to free list adjectives to describe landscape characteristics that they used to rank the landscapes.

TEXTUAL ANALYSIS

Interview tapes were transcribed by a contract transcriptionist and returned to me as Microsoft Word documents. Of the 11 interview tapes one ended up being blank as a result of a researcher error, possibly the small child that was playing with the tape recorder at the beginning of this interview. I proofed and corrected transcripts by listening to the tapes. Field notes were included as a header paragraph to the transcripts with information on the participant as well as initial reactions to the interview, its contents and importance.

This research took an initial grounded theory approach to analyzing its qualitative data and later relied some on hermeneutics for analysis. Grounded theory approaches to
 qualitative data analysis were largely inspired by symbolic interactionism, which takes
the perspective that people interact based on their symbolic understanding and perception
of their environment (Kearney et al. 1995). Grounded theory analysis attempts to build
new theory rather than confirm existing theory (Kearney et al. 1994; Charmaz 2000). It
accomplishes this by systematically coding qualitative data based on categorical and
theoretical codes that are developed and continually modified throughout much of the
process of analysis. These codes become the foundation upon which the resulting
analysis lies. To protect the confidentiality of participants, I use pseudonyms throughout
the remainder of this paper. Original transcripts are available for review upon request.

I developed a codebook for analysis generated for the larger EPA project along
with my familiarity with this transcript set. My codebook included general categories
that I thought would encompass the material that was covered in my interview set, and
was similar to Kearney’s (1995) description of preliminary data categorization. I started
with 18 categorical codes, and practice-coded an interview that covered a broad range of
material and topics. Following the practice run I collapsed two codes together, added
another, and modified code descriptions as necessary. The final code list contained 18
codes (see Appendix C for a copy of the Codebook). Using the code descriptions, most
anyone could code an excerpt from my transcripts in the same way that I did.

Transcripts were coded line by line over the course of one week and then loaded
into QSR Nvivo 2.0. I then went back to the hardcopy transcripts and reread them all
making note of common themes that appeared across the interview set. I was not
searching for complex relationships or complicated deconstructions of intricate
circumstances, but cultural themes that were common throughout the transcripts. I
identified five initial themes, and then went back to Nvivo to search for examples of each theme.

I browsed free nodes in Nvivo that seemed to be relevant to each theme, and although there was close to a one to one relationship between questions and nodes, there was not a one to one relationship between nodes and themes. This was because participants addressed themes in response to different questions. After searching this way I knew my transcripts so well and it was a small enough dataset that I went back through each transcript and picked out examples of themes manually by asking the question, “what is this an example of?” This process was similar to Kearney et al.’s (1994) description of Glaser’s “theoretical coding” and constituted the major portion of analysis of my interview transcripts.

I wrote a short description of each theme along with some preliminary thoughts on their significance and relationships with other themes, and compiled this along with supporting examples into one document. This became the initial result of my transcript analysis. After getting feedback from others I rearranged some examples, included some as examples of multiple themes and deleted and included others until I felt that each theme had sufficient supporting evidence. After working with this document it became clear that three of the themes were of greater significance to my research questions. Focusing on these three themes I went back through the transcripts another time in search of supporting examples. The final step of my transcript analysis included a final search of the transcripts for evidence that could disprove the importance or commonality of these three themes. These three themes are as follows in Table 6.
Table 6. CODING FOR CULTURAL THEMES

<table>
<thead>
<tr>
<th></th>
<th>Relationships</th>
<th>Patterns of interaction between two or more people including neighbors, professional associations, romances, friendships and enemies. Describes interpersonal relations between people as well as between people and organizations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Cues</td>
<td>Description of landscape characteristics or properties that are considered by participant to be reliable manifestations of maintenance practices. May include grass color, bush and shrub trimming style, presence/absence of certain plants, colors, etc.</td>
</tr>
<tr>
<td>16</td>
<td>Motivation</td>
<td>Reference to one’s motivation and/or intention for engaging in residential landscape maintenance. Could be economic, health, pleasure, community, or human/environment related.</td>
</tr>
</tbody>
</table>

The above textual analysis provided important context, some verbal descriptions of desirable landscape characteristics as well as insight into people's motivation for maintaining their residential landscapes. It did not however, provide opportunities for participants to react to landscapes and rate some over others. This rating would provide an important compliment to the expressed preferences and beliefs of participants as well as a way to quantitatively compare preferences within and across neighborhoods.

TABULAR ANALYSIS

Participants’ responses to the ranking exercise consisted of 13 blocks of four landscapes that had been ranked in order of the quality of landscape maintenance. The most well maintained landscapes in each block received a ranking of one and the least well maintained received a ranking of four. For each participant the number of times that each landscape was ranked one, two, three or four was tallied creating a matrix of 13 rows and four columns. The tallies were then multiplied by the rank and summed across all four possible rankings of one, two, three or four to generate a total score for each participant. Each landscape had a highest possible score of ‘16’ (four fourth place
rankings), and lowest of four (four first place rankings), for each participant. The participant sums were then rank ordered from lowest score (most well-maintained landscape), to highest score (least well-maintained landscape), providing a landscape ranking for each participant. Ties in scores were broken by the landscape that had received the greatest number of ratings of lowest rank (more well-maintained), across all 13 blocks being given the lower summed rank (more well maintained), for that participant. Participant sums were totaled across all participants in each neighborhood and this neighborhood average was then rank ordered in the same way that participant sums had been. The result of this step provided an average ranking of landscapes across all participants in each neighborhood. The participant landscape rankings and neighborhood landscape rankings provided the initial results of the ranking analysis.

The three landscapes that were common to each neighborhood-ranking tool were used to assess the degree to which participants from different neighborhoods ranked landscapes similarly or differently. The summed participant rankings were used to create a matrix of 11 rows (one for each participant), and three columns containing the rank that each of the three common landscapes had received from each participant.

ANTHROPAC 4.0 (Borgatti, 1996) was used to generate a square 11-case similarity correlation matrix comparing the responses [(X,Y) vectors], of each participant to the ranking of the three common landscapes none of which were in any of the test site neighborhoods. The correlation between vectors was defined as the covariance of vectors divided by the product of the standard deviations of X and Y. The correlation matrix was used as input to a minimum Johnson’s hierarchical cluster analysis (Borgatti 1996). The resulting clusters of participants minimized similarities in between group landscape
preference. Therefore the cluster analysis was used to group participants together based on the similarity of their preferences for residential landscapes in PTC, but that were not within their own neighborhood.

A Friedman Chi-square test was used to assess the degree to which participants from each test site collectively perceived some landscapes to be well maintained and others to be less well maintained. SPSS 11.0 for windows was used to carry out the Friedman tests using participants as cases and their summed rank ordering of landscapes as variables. To assess the degree to which there was agreement in the rankings of landscapes between participants within each neighborhood a Kendal’s W test was carried out also using SPSS 11.0.
Chapter 5

Results

The analysis of the ranking exercise and transcripts provide several useful results. Participants identified pride of ownership, respect for neighbors and pride of place as their motivation to maintain their residential landscapes. They also emphasized the importance of consistency in a landscape with respect to its surroundings and characteristics of flow and balance throughout a neighborhood landscape. Participants spoke at length about how neighborhood social process effects how they maintain their landscapes. An important piece of context to keep in mind is the role and use of landscape professionals by participants. Only one participant used a full lawn service while two others used a weed control service and one more used a service for the application of fertilizer. Of those who used professional services three were from the OH neighborhood and one from the OL neighborhood. Finally, the results of the ranking exercise provide quantitative measures of landscape preference and a way to compare those preferences.

TEXTUAL RESULTS

Participants were asked three questions about why they chose to maintain their residential landscape. They were first asked what motivates them to maintain their residential landscapes. They were then asked if there are benefits to maintaining their
residential landscapes and if so, what were they? Finally, they were asked if there are consequences to not maintaining their residential landscapes. In this way participants were given three opportunities to talk about why they chose to maintain their residential landscapes.

In response to the first question seven participants mentioned pride of ownership, personal pride, self-respect and respect for neighbors while one participant mentioned resale value. One participant identified personal and family aesthetic gratification as his sole motivation and another talked about his "genetic" disposition to care for his personal belongings. Bob talks about why he and his wife take pride in their ownership of material belongings.

Bob: …my wife and I are both children of the depression and, therefore, we have an affinity for material things. We have a mindset to maintain and preserve material things… That has to do with being born during hard times; having parents without a lot and so the preserving of material things and safe keeping and so forth is important (2002.12.11NPTH-4: p4).

Ted talks about his motivation for maintaining his residential landscape mentioning respect for his neighbors as the fundamental reason to maintain his residential landscape.

Ted: … it’s [referring to maintaining one's residential landscape] fundamentally a respect for your neighbor. He needs to be able to look out his window. You may look out your window and you’re not going to see your yard, but you’re going to see his yard. So have a little respect
for him…to me it’s a matter of neighborly respect that you keep your yard …[looking good] (2002.12.12NPTH-7: p14).

Jim comments on his motivation for maintaining his residential landscape indicating that he and the other residents in his neighborhood take pride in the community in which they live.

Jim:… We’re all aspiring to have a community to live in that we can be proud of and wouldn’t mind people driving through. You want it to look nice and look consistent (2003.2.6NPTH-11: p5).

Though resale value was infrequently mentioned in response to the first question about motivation it was more frequently mentioned in response to the second question. Six participants identified increased property value, ease of resale, and better curb appeal as benefits to maintaining one's residential landscape. Another participant mentioned the maintenance of his sanity as the primary benefit of maintaining his landscape and explicitly stated that he thought that there were no financial benefits to residential landscape maintenance, only costs.

In response to the last question concerning motivation five participants mentioned city ordinances and homeowner's association deed covenants that control maintenance of residential landscapes in PTC. This is addressed in more detail with the third theme of textual results. Two participants mentioned social consequences to not maintaining one's residential landscape and two mentioned the consequence of attracting pests such as snakes, gophers, moles and squirrels. One participant mentioned decreased property value as a consequence although he had already mentioned better curb appeal as a benefit.
The maintenance of residential landscapes provides several benefits to homeowners including increased curb appeal and property value as well as avoiding fines and discouraging pests. However, participants identified pride of ownership, respect for neighbors and pride of place as their primary motivations for maintaining their residential landscapes. How is this pride and respect communicated through maintenance practices?

Participants were asked questions about the physical characteristics of a well-maintained landscape to explore the cues people use to assess quality of maintenance. Participants mentioned evenly mowed lawns, well trimmed hedges and neatly edged driveways as indicators of well maintained landscapes and the absence of the aforementioned along with the presence of weeds and refuse in the yard as indicators of poorly maintained landscapes. However, more than anything else participants emphasized the importance of context. Participants used adjectives such as flow, balance and consistency to describe the desired appearance of a residential landscape within a neighborhood. Betty talks about work that her neighbors put into their landscapes affecting how she chooses to maintain her own.

Betty: …a lot of people on this street work hard to keep their yards looking nice and so I like to have it where it all sort of blends together


John was a landscape designer by profession and spoke on the importance of consistency in a single-family residential neighborhood from a design perspective. He indicates that the composition of a landscape is of little relevance compared to the property of consistency.
John (landscape designer): The concept…[is]…what I call “the village.”

The village is … first off you’re dealing with single home property type neighborhoods; predominantly that’s what I’m referring to. A lot of homes … a lot of developments usually need something to tie the area together, like street trees for instance, some kind of consistency because if not, you get a real erratic inconsistent with relation to aesthetics…So I think you get to the definition of what is well maintained? You get into that concept where you get irregularity instead of consistency. If everyone put pine straw down and just let oak trees grow, it would look really cool. It would have a beauty all of it’s own consistency


Neighbors in more ways than just through maintenance practices affect the maintenance practices of PTC homeowners; they are also affected by social process. Participants spoke often at length about community dynamics and interpersonal relations as they impact landscape maintenance within their neighborhoods. They identified three ways -passive, active and legal-, that social process can affect one's landscape maintenance practices. The passive process seemed to be the most prevalent in PTC neighborhoods and has to do with either real or perceived external pressures that one might feel to maintain some level of consistency in landscape maintenance within their neighborhood. John the designer talks about how the maintenance practices of others affect his own.

John(landscape designer): …What will the neighbors think? Just the …you know … pure peer pressure where if I don’t mow my lawn, it’s
going to look like crap and my next-door neighbor he’s out there all the time. I think that encourages everyone (2003.1.22NPTH-8: p7).

Passive social pressure was often referred to as peer pressure whereby residents perceive that their neighbors expect them to maintain their landscapes up to some unspoken standard. Rarely if ever did an outside party exert this pressure on a homeowner, but it was perceived to be present with great consistency. This was all that was needed for the dynamic to persist. Residents of all three neighborhoods I worked in talked about passive social process.

Social process can also exert itself in active ways. This may include “hints” that residents actively deliver to neighbors that their maintenance actions are found to be unsatisfactory. It may also include direct social interaction as described by Barney talking about the OL neighborhood.

Barney: … I’d say 95% of the people in this neighborhood are what we call permanent residents. They’ve lived here 20 years or more. And we just go tell them … cut your grass. Or do you have a problem with your lawn mower that we need to come help you out. That’s the way we are. It’s not just the city doing it … Somebody new moves into the neighborhood … after one summer, he gets a visit from the neighbors who say look, this is what we expect, this is what we want … can you do it (2003.1.22NPTH-9: p5)?

Active social pressure was exerted through social interaction between homeowners. This often included the communication by one homeowner to another that their landscape maintenance practices were sub par. However, a participant from the NL
neighborhood described how she delivered "hints" to a neighbor to maintain her property differently and I considered this to be an active approach as well. She described how a neighbor had continually neglected to remove her newspaper and trashcan from street side within an acceptable timeframe. The participant delivered a "hint" to her neighbor by beginning to perform these tasks for her until she began to do them herself.

Finally, there is a legal approach to exerting social pressure upon a neighbor in PTC. All examples of this came from the OH neighborhood. It appears that this rarely involves legal action, but often involves the threat of legal action either by a homeowner’s association, a neighbor, or the city. Community members participate in this process by notifying the homeowner’s association of apparent covenant violations, notifying city code inspectors to “check something out," or through their own participation as board members of homeowner’s associations or architectural review committees. Ted talks about the OH neighborhood, the role of its homeowner's association and its approach to legally influencing homeowner's residential maintenance practices.

Ted: … yes it is active [referring to the homeowner's association in the OH neighborhood]. I was the first president. Its role is to enforce the covenant’s conveyances and restrictions that apply to the neighborhood…We require that the landscaping be kept up and if it’s not, then the homeowners association has the right to go in and clean up that person’s yard. And, interestingly, on this street including my neighbor next door, has been issued a letter to get it right (2002.12.12NPTH-7: p6).
Participants responded to questions about their motivation to maintain their residential landscapes by talking about pride of ownership, respect for neighbors and pride of place. Participants described neighborhood social dynamics as passive, active and legal social processes that affected their residential landscape maintenance practices. Participants also emphasized the importance of properties of consistency, flow and balance to evaluating quality of maintenance. Though context was obviously important, I was also interested in participants' reactions to individual landscapes irrespective of their surroundings. Results of the ranking exercise provided a comparison of the preferences of participants.

TABULAR RESULTS

The ranking exercise was meant to evaluate the similarities and differences in how participants preferred images of residential landscapes. They had been asked to rank the images in order of quality of landscape maintenance. Landscapes in each neighborhood were assigned a number from one to 13 with landscape numbers one, two and three being common to all neighborhood-ranking tools. In Table 7 are the summed rank responses for each neighborhood. Figures 1-6 show the images of residential landscapes that were most preferred and least preferred by participants. (To see the images of the landscapes along with adjectives free listed by participants see Appendix B; for complete ranking results see Appendix D).
I used the Johnson’s minimum hierarchical cluster analysis method to evaluate the similarities and differences in preference for the three common landscapes by participants. The Johnson's minimum hierarchical cluster analysis starts by considering each case as an individual cluster and then begins to combine like cases into larger clusters until the entire dataset is one complete cluster. The minimum method of cluster analysis (also called the connectedness method), takes the smallest distance between any item in one cluster and any item in another to assign cases to clusters. This method was used because it does not assume that the input data is interval, although results achieved using other hierarchical clustering methods (single and complete), were very similar.

The results of the cluster analysis (Table 8) indicate that members of the OH and NL neighborhoods perceived quality of landscape maintenance differently. Indeed, the summed, average rank of landscape number two in the OH neighborhood was 12th, second to last, while in the NL neighborhood it was rated as having the highest quality landscape maintenance of the entire group. Participants in the OH neighborhood called landscape number two overgrown and cluttered while members of the NL neighborhood praised it for its complimentary composition and continuity.

Table 7. TABULAR SUMMARY RESULTS

<table>
<thead>
<tr>
<th>RANK</th>
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*Cell values match landscape Ids in Appendix B*
Table 8. CLUSTER ANALYSIS RESULTS

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Friedman's and Kendal's W tests were run to support the results of the cluster analysis as well as to generate a measure of agreement within neighborhoods. The Friedman test is a nonparametric test for related ordinal samples that tests the null hypothesis that variables’ ranks do not differ significantly from their expected ranks. For cases of constant sample size the higher the chi-square statistic the larger the difference between a variable’s rank and its expected rank (the more that there is a distinct non-random pattern to the rankings). The asymptotic significance statistic provides a measure of the approximate probability that the chi-square result could be attained by chance with the same number of degrees of freedom if no pattern to peoples' rankings actually exists. Three Friedman tests were carried out, one for each neighborhood.

The Kendal’s W test is a nonparametric, paired comparison test of the concordance of ordinal associations among raters and is a normalization of the Friedman test. The paired comparison is considered concordant if the case with the higher value in the row variable also has the higher value in the column variable; this implies a positive association between row and column variables. Discordance occurs when the case with
the higher value for the row variable has the lower value in the column variable; this implies a negative association between row and column variables. Ties occur when a case has the same value for both the column and row variables; this implies no association among row and column variables.

The Kendall’s W statistic also referred to as the coefficient of concordance, ranges from zero to one with one measuring perfect concordance and zero measuring perfect discordance. The Chi-square statistic measures the strength of this association with larger Chi-squares indicating better associations. The asymptotic measure of significance measures the approximate probability that this Chi-square could be generated by chance with the same number of degrees of freedom if there really is no association between row and column variables.

The mean ranks generated by the Friedman and Kendall's W tests for the NL neighborhood support the average ranks reported in Table 7. Landscape numbers two and three are seen as the most well maintained landscapes in the NL neighborhood and landscape number 11 is seen as the least well maintained. The level of concordance among participants is .769 (n = 5; X² = 46.127; df = 12; p< .05).

Figure 1. NL Most Preferred                      Figure 2. NL Least Preferred
The mean ranks generated for the OL neighborhood support the average ranks reported in Table 7. Landscape number three is the most preferred landscape in the OL neighborhood and landscape number 11 is the least preferred by participants. The level of concordance is .385 (n = 2; X² = 9.231; df = 12; p > .05).

![Figure 3. OL Most Preferred](image)

![Figure 4. OL Least Preferred](image)

The results for the OH neighborhood supports the average ranks reported in Table 7. Landscapes number five and nine are the most preferred landscapes in the OH neighborhood and landscape number 13 is the least preferred. The level of concordance is .788 (n = 4; X² = 37.814; df = 12; p < .05).

![Figure 5. OH Most Preferred](image)

![Figure 6. OH Least Preferred](image)
Participants identified pride of ownership, respect for neighbors and pride of place as their primary motivations for maintaining their residential landscapes. They emphasized the importance of context to evaluating quality of maintenance, mentioning a desirable characteristic of consistency in a landscape with its surroundings and flow and balance of landscapes throughout a neighborhood. Participants also talked about how neighborhood social process affects their residential landscape maintenance decisions. Finally, results of the tabular analysis show that participants ranked common landscapes differently and they did so with high levels of concordance within neighborhoods. How do these results help us to understand people's motivation to maintain their residential landscapes in PTC? How is this affected by PTC's development history and design goals of maintaining aesthetic appeal, promoting community and preserving ecological integrity?
Chapter 6

Discussion

A pragmatic perspective and mixed methods approach helped this project to both explore and explain the research question. The flexibility of pragmatism allowed me to take a largely constructivist perspective on the textual results which was not incompatible with the more positivist perspective necessary to accept the results of the tabular analysis. The textual results helped to build important context and allowed for participants to bring topics to the research that were unforeseen. The tabular results on the other hand, provided explanatory power and opportunity for comparison with other research that has been done using a costly signaling theory framework. Not only did a mixed methods approach enrich the research findings, but it also provided opportunities for triangulation and verification. Textual results supported tabular results and vice versa, adding support to the findings of this project and opportunities to address discrepancies if they were encountered. A mixed methods approach to this research project provided the opportunity for both exploration and explanation of the research question.

The textual and tabular results bring us closer to understanding people's motivation to maintain their residential landscapes in the social, political and historical context of PTC. PTC was designed in the New Town model that planned development at the neighborhood scale and emphasized the importance of landscape aesthetics in part by establishing citywide regulation of residential landscape maintenance practices. In PTC, homeowners signal pride and respect to one another as well as to a greater audience
through their residential landscape maintenance practices. What's more, they influence each other's practices in profound ways both through their own maintenance action and through neighborhood social process. Not surprisingly, the evolution of these preferences and processes is distinctly neighborhood specific. Neighborhoods are locations of complex signaling and negotiation where people are aggregated by preference and whatever diversity is left becomes normalized by social process. How do these dynamics work in PTC, how might they be changed through different community design, and how might these changes help facilitate the acceptance of residential lawn alternatives?

SIGNALING AND SOCIAL PROCESS

PTC was designed at the neighborhood level in an attempt to promote a feeling of community for residents. When asked about their motivation to maintain their residential landscapes many participants spoke about pride of ownership, respect for neighbors and pride of place. The presentation of one's property was seen as a reflection of oneself as described by Jim.

Jim: Well I think obviously the property values, the curb appeal … just what people think of you, obviously is a reflection of where you live

(2003.2.6NPTH-11: p6).

[sometime later]

Jim: I guess it’s just having a certain degree of pride in where you live and what you do. You want other people to see that as well and the
avenue that you do that is how you present your house, your belongings
and that sort of thing … your person, yourself (2003.2.6NPTH-11: p10).

Jim takes pride in the things that he does. He wants other people to see that. The
avenue that he uses to communicate this is through the presentation of himself and his
property. Participants perceived the presentation of one's property as an accurate signal
containing information about the pride and respect of the owner. Not only is it perceived
as an accurate signal, but it's also one that you want other people to be able to perceive.

CST describes how a signaling dynamic plays an important role in establishing
and maintaining not only mating relationships, but also social and political relationships
in a variety of social and cultural contexts. CST makes the case that the audience
perceiving these signals is one's community, more specifically in PTC it is one's
neighbors. A number of participants identified the development and maintenance of
positive relationships with neighbors as a benefit of maintaining one's residential
landscape. It is difficult to say whether or not neighborhood relations would be important
to homeowners in a development that was not explicitly designed around the
neighborhood unit. One possibility is that homebuyers who already value a sense of
community and desire neighborly relations are attracted to PTC for its unique spatial
organization. Regardless of how it happened, it is important for PTC homeowners to
signal pride and respect through residential landscape maintenance in order to establish
and maintain positive relationships with neighbors.

If one's audience is one's community and signals are to be honest transfers of
information about an individual, there must be consistency in how those signals are
interpreted. In the example of the Meriam tribe of Australia, spear fishermen signaled by
successfully spearing a fish and carrying the catch "in-hand" through the village for other community members to see. When surveyed, over 75% of villagers identified the most frequent signalers as the best spear fishermen (Belige Bird et al. 2001). Similarly, in the OH and NL neighborhoods in PTC, the concordance in perceptions exceeded .75 as to which residential landscapes were better maintained than others. This result combined with the perspective that the presentation of one's property is a reflection of oneself, strongly suggests that residential landscapes in PTC are signals communicating accurate information about the pride and respect of homeowners. The cost of the signal comes in the financial, time and energy investment necessary to maintain one's yard. The use of a professional does not seem to matter much as it serves only to shift the form of investment. The benefit comes in the establishment and maintenance of positive relationships with neighbors. PTC homeowners spend time, energy and money on residential landscape maintenance in order to signal pride of ownership, respect for neighbors and pride in community to other residents in their neighborhood.

This signaling dynamic extends to a larger community as well. Not only are community members aspiring to present themselves well to each other, but they also aspire to present their community well. In this case the audience becomes the world at large. Of particular interest to community members are potential buyers of homes in their community. Some participants talked about the desirability of attracting a "quality" homebuyer to their neighborhood. Attracting a quality homebuyer to a neighborhood would provide an opportunity for community members to establish a relationship with that new homeowner. It would be advantageous for existing homeowners that incoming community members are of high quality in order to not only maintain the character of the
neighborhood, but also for the possibility to establish new and strategically beneficial relationships or alliances with people of influence.

A number of participants described to me the process of purchasing, or selling a home. It was not clear whether this process was unique to PTC and/or whether it would hold true in a development that was not designed into neighborhoods. However, next to location of the property, participants identified the appearance of a neighborhood as being of primary importance and the appearance of an individual residential landscape relative to its surrounding as being of secondary importance. Should a community member need or want to sell his or her property, the aforementioned process of selecting a home to buy makes it imperative that the neighborhood is presented well to potential homebuyers. Once a homebuyer has found the neighborhood to be acceptable it is important that the landscape of the home seller is at least as well maintained as its surroundings. Homeowners maintain their residential landscapes so as to maintain their property value as well as the property value of the neighborhood.

Signals to community members and to a larger audience are related. Neighborhood signals to potential homebuyers maintain everybody's property value in the neighborhood. Some participants saw a component of respecting one's neighbor as respecting the value of his or her property. Participants maintain their residential landscapes to signal pride and respect to other community members as well as to a larger audience. They do this in order to establish and maintain relationships with neighbors and potential homebuyers. A major benefit of signaling pride and respect was maintaining one's property value as well as the value of properties within the community. Participants identified a characteristic of consistency as an important characteristic of a
homeowner signal and characteristics of flow and balance as being important characteristics of a neighborhood signal.

Other researchers have documented consistency within urban and suburban neighborhoods although they have attributed this artifact to social mechanisms other than signaling. Jean Zmyslony and Daniel Gagnon (1998; 2000) have published two papers on observed patterns of front yard management in the Hochelaga-Maisonneuve district of Montreal. In 1998 they recorded 49 descriptors of the structural matrix of front lawns and then searched the dataset for autocorrelation of variables. What they found at the 95% confidence level was a zone of influence with radius of four front yards. Front yards that were closer geographically were more similar in terms of pattern and structure than yards that were further apart. They also found a stronger relationship between abiotic variables than between biotic variables, "…residents in Hochelaga-Maisonneuve are not influenced by plant species as much as by shape, color and location of vegetation" (Zymyslony and Gagnon 1998: p305). Like PTC participants, Hochelaga-Maisonneuve residents were concerned with the appearance of consistency of structure and color in their front yards.

In their 2000 study Zmyslony and Gagnon confirm their earlier observations and go on to state that contagion or mimicry driven by frequency of social interaction explains clustering of similar front yard landscapes. An alternative interpretation would be a signaling dynamic in which consistency, flow and balance are visual cues containing information about the homeowner and neighborhood. This alternative explanation does not question the finding of Zmyslony and Gagnon of a dynamic of mimicry or contagion, however it does suggest a different mechanism for the dynamic. A simple research
project could resolve this issue. If it is mimicry mediated by frequency of social interaction that is being observed in Hochelaga-Maisonneuve, then the same spatial relationships should hold true between back yard landscapes. Lack of such a relationship would bring into question the dynamic of mimicry, and lend support for consistency, balance and flow.

Consistency refers to an object's ability to blend aesthetically into a whole (a residential property's ability to blend into its surroundings of other residential landscapes for example). Flow and balance on the other hand, refer to aesthetic properties of a whole (a neighborhood), whose components (individual residential landscapes), have achieved a characteristic of consistency. A landscape has achieved flow when the transitions between objects within the whole are not abrupt. A lawn that is cut to two inches in grass height appearing immediately adjacent to a lawn that is cut to four inches in grass height would interrupt the flow between the two landscapes. If this inconsistency were carried out throughout the neighborhood there would be no flow in this neighborhood landscape and it could be said to lack consistency. Balance on the other hand compares the properties of landscapes as opposed to the transitions between them. Where one residential landscape is extravagantly and ornately designed and a neighboring one is quite bland and plain these two landscapes are said to lack balance. In the absence of balance throughout the neighborhood the neighborhood is said to be inconsistent. In this way it is possible to have flow but lack balance throughout a neighborhood where transitions have flow but there is a gradual gradient of increasing complexity in landscape design across a neighborhood. When a residential landscape at one end of the gradient is compared to a residential landscape at the other end of the
gradient an imbalance is noted between the two even though transitions between landscapes may seem to flow well.

One way that homeowners and communities create visual cues of consistency is through their landscape maintenance practices. A number of participants shared with me anecdotes about how in their neighborhood once one homeowner begins to mow their lawn or perform other maintenance that by the end of the day many neighborhood residents undertake landscape maintenance tasks. One participant even bragged about the evenness of grass height in his neighborhood claiming that you could putt a golf ball across their yards uninterrupted. There are by no means neighborhood maintenance schedules that residents follow. Participants pay close attention to the landscape appearance and maintenance practices of their neighbors. By informally coordinating maintenance schedules community members achieve desirable aesthetic results related to consistency as well as flow throughout the neighborhood. If communities are aspiring to achieve the aforementioned characteristics in appearance how then do they reach consensus on the character that they're striving to achieve?

People of similar aesthetic preferences tend to congregate in the same neighborhoods. The results of the Hierarchical Cluster analysis and Friedman's and Kendall's W tests confirm that people do perceive differences in quality of landscape maintenance, they do this with high degrees of within-group consensus and different groups perceive quality differently. Jim had this to say about group preferences and patterns of suburban settlement.
Jim:… I think some people... just don't really care about that sort of thing [referring to taking care of material property]. For the most part, people who do, tend to [congregate] in the same area. That’s the good news.

PTC was designed in the New Town model that emphasized the importance of landscape aesthetics. This is evident as you drive around the city in the meticulously maintained road right-of-ways, entrances to neighborhoods and other property maintained by the city. Landscape aesthetics are set as a priority of the city and residents are aware of this upfront. People who "care" as Jim pointed out, move to PTC. Once in the city limits, however, if a potential homebuyer visits a neighborhood and doesn't like the appearance of the community (i.e., doesn't interpret the community signal as communicating the things that they're looking for including pride, respect and care), they don't look any further. This settlement process lends itself well to the congregation of people of similar preferences into similar communities. However, this is not always a perfect process.

There are a great number of limitations placed on the homebuyer when purchasing a home. These include: temporal restrictions, availability of homes, distance to places of work, distances to places of work for a spouse, distances to services, distances to family and on and on. Homebuyers make a decision based on far more than just aesthetic preference. There inevitably ends up being differences in preference among homeowners who settle in the same neighborhood. Which brings us back to the question, "how is consensus reached on the presentation of neighborhood landscapes and community signals?"
Social process acts as a pressure that normalizes the presentation and character of residential landscapes within neighborhoods in PTC. This is not surprising as PTC was designed around neighborhoods and previous results suggest that the neighborhood is an important social unit for PTC homeowners. Neighborhood social pressure exerts itself in passive, active and legal ways. Passive social pressures are very much related to the aforementioned desire for an appearance of consistency and balance within neighborhoods. Homeowners feel pressure to maintain their landscapes in a way that blends in with the rest of the neighborhood for aesthetic reasons as well as to communicate pride and respect. Active and legal pressures involve action taken by homeowners. Participants informed me that deed covenants and citywide ordinances are rarely policed by outside parties in PTC. Instead, legal documents empower homeowners to act on their own, enforcing regulations themselves either through individual action or through their involvement with a homeowner's association. Determining when to act is largely discretionary and up to the individual. The details of the covenants and ordinances do not matter as much as whether or not an individual's neighbors feel that he or she is doing an acceptable job of landscape maintenance. Participants described how a baseline of maintenance quality is established within a neighborhood by a critical mass of individuals maintaining their property at a certain level, regardless of what covenants or codes may describe. This level becomes the unspoken communal expectation. This is not to say that covenants and ordinances are unnecessary, just that their service to the community is less to establish the details of a baseline expectation and more to empower homeowners to take action should they feel that their neighbors are not maintaining their landscapes up to par.
Joe: …The Homeowners Association will come down on you (if you
don't maintain your landscape). We had … I don’t know whether you’ve
been next door or not … we have filed … the Homeowners Association
had to take them to court to landscape their yard. And even at that it was
kind of “in your face” and they just kind of skated by on the bare

In this interview it was clear that the "bare minimum" was unacceptable to Joe.
The rules and guidelines outlined within the deed covenants of the OH homeowner's
association were not, in fact, the operational landscape maintenance standards that Joe
expected of his neighbors. How and when is each form of social process enacted?

Neighborhood age plays a part in what form of social pressure is exerted by
homeowners to affect the residential landscape maintenance of others. The longer that
residents have lived in a neighborhood together the more comfortable they are with
confronting each other directly. So what happened to OH, which by this line of
reasoning should be governed by active social process? The OH site was the only
neighborhood with an active homeowner's association. OH residents had better and
easier access to forms of legal action against neighbors for not maintaining their
residential landscapes up to their expectations. Nevertheless, residents of the OH
neighborhood expressed more distress and dissatisfaction with the landscape maintenance
practices of their neighbors than participants from other neighborhoods.

Every OH resident interviewed mentioned turmoil in the neighborhood as a result
of various residents not maintaining their residential landscapes in what was seen as an
acceptable way. What's more, the quality of life experienced by those OH residents that
were threatened with legal action by their neighbors was also likely diminished. The presence of the homeowner's association in the OH neighborhood discouraged the development of other than legal forms of social process with which to mediate neighborhood landscape maintenance. Not only was there not the level of active social process in OH necessary to mediate neighborhood landscape maintenance, but also the deed covenants enforced by the homeowner's association did not represent the operational expectations for landscape maintenance of OH residents. However, as the homeowner's association was the only vehicle available for OH residents to use to influence the landscape maintenance practices of others they were tied to the details of the deed covenants. Legal actions were met with legal responses as Joe described and the result was a diminished quality of life for seemingly all neighborhood residents.

Another way that the OH neighborhood differed from the OL and NL neighborhoods was in its spatial organization. Lots were larger in the OH neighborhood and homes were more likely to be set far off of the street; some were even out of sight. Interview transcripts revealed that OH residents valued privacy. When asked which was the most desirable lot in the neighborhood OH residents all gave the same response. When asked why they preferred this particular lot they responded by talking about the fact that it was narrow at the front and wide at the back, affording a lot of privacy and isolation. OL and NL lots on the other hand were all small and homes were rarely screened from the street. These neighborhoods were also more likely to have sidewalks and walkways connecting homes to one another and the street to the home. It could be that the spatial organization was discouraging the development of active social process in the OH neighborhood, but further research is needed before conclusions can be reached.
It is not the perspective of this paper that landscape maintenance regulation is bad. As was pointed out earlier, citywide ordinances regulating residential landscape maintenance empowered homeowners to act in the face of maintenance practices they found to be unsatisfactory. In essence, empowered by citywide ordinances homeowners in the OL and NL neighborhoods attained a level of social interaction that made the presence of a homeowner's association unnecessary. Barney responds to a question about whether there is a neighborhood association in the OL neighborhood.

Barney: No. Not in OL. Well, there’s no association per se, but if we see something…(that we don't like we tell them about it and it all works out)


Designed in the New Town movement, PTC is a city where landscape aesthetics are valued and this is reflected in the presence of city ordinances regulating residential landscape maintenance practices. These citywide regulations empower homeowners to take action on their own to affect the maintenance practices of neighbors through passive and active forms of social process. Other legal documents such as deed covenants, however, discourage the development of other than legal forms of social process and their details are too rigid to accommodate the changing character of a neighborhood. In such a community context subject to the pressures of social process it does not seem that there is any room for alternatives to the residential lawn in PTC.

ALTERNATIVES

Robert Feagen states that, "Stripped of its historical contingency, the lawn can be argued to be part of a powerful belief system, usually unexpressed, which, however,
quickly emerges when confronted by deviation from its standard (Feagen 1999: p619)."

PTC residents were quick to take action against their neighbors for not abiding by community-established standards for residential landscape maintenance. This did however, take place in communities of differing preferences and tolerance for different styles of residential landscapes.

Landscape number two (see Appendix B for image) in all ranking exercises depicted a residential landscape outside of the four test site neighborhoods. The homeowner of this property was a professional landscape designer with an impressive background of training, experience and awards in residential landscape design. She had created the landscape on her property as an illustration of her professional skills. Her landscape was atypical in the context of PTC in its appearance and in that she used no pesticides, few amendments and maintained little turf grass. Compared to the norm in PTC, her residential landscape was an "environmentally-friendly" alternative to the residential lawn. The results of the ranking exercise indicate that residents of the NL neighborhood were not only receptive of landscape number 2, but they ranked it the most well maintained landscape while residents of the OH neighborhood ranked it second to last. Why the difference in receptivity to this alternative?

Henderson et al. (1998) in their study of the spatial distribution of residential lawn alternatives in Guelph, Ontario found that alternatives were distinctly clustered together on the landscape. This is consistent with my findings regarding the desire for consistency and flow. They found that alternatives were concentrated in older neighborhoods with narrow streets, mature trees, small lots and varied topography. They also noted that lawn alternatives were more prevalent on lots where physical and environmental factors made
the maintenance of turf grass difficult. They conclude by emphasizing the importance of environmental factors to the presence of lawn alternatives.

The NL neighborhood is located on a cul-de-sac on a single straight street with small lots, little change in topography and young trees (due to the neighborhood's age). The OH neighborhood, on the other hand, is located on a meandering loop street with large lots, mature trees and extreme topography that makes the maintenance of turf grass very difficult for a great many OH residents. Because the participation in the OL and NH neighborhoods in my research was minimal, I was unable to differentiate between preferences associated with high or low property value and old or new neighborhood residents. When comparing the results of the Henderson et al. study to my results the associations of preference with neighborhood age, lot size, tree age and topography seem confounding. The only selection factor left to explain receptivity to lawn alternatives is property value. Residents of higher property value neighborhoods seemed to be less receptive to deviations from their community standard than residents of other neighborhoods. However, my research was set up more to determine whether differences in preference existed between groups rather than measure the receptivity to alternatives of different groups. More research is certainly needed on this question before any conclusions can be reached.

PTC was designed in the New Town model that used the neighborhood as the unit of planning and emphasized control of landscape aesthetics. Homeowners in PTC identified their primary motivation for maintaining their residential landscapes signaling pride of ownership, respect for neighbors and pride of place. They did this in order to reap social benefits of establishing and maintaining positive relationships with neighbors
as well as to preserve neighborhood property values. Important properties of these signals were characteristics of consistency, flow and balance. In order to achieve these qualities in a neighborhood all homeowners must participate harmoniously in what are unplanned activities of landscape design and maintenance. Deviations from what is perceived to be harmonious participation is met with the regulatory pressures of passive, active and legal social process depending on the properties and preferences of the neighborhood. In this context it seems as though alternatives to the residential lawn stand little chance.
Chapter 7

Conclusion

The residential landscape has evolved into a location of important information transfer. As such, landscape preferences are closely associated with the information that is communicated through landscape signals. For PTC residents, preference for the conventional lawn communicates pride and respect, but is this really the case? Another possibility is that pride and respect is communicated through a homeowner's participation in striving for a characteristic of consistency at the level of the residence and for balance and flow at the neighborhood level. Homeowners in this case are left at the mercy of the neighborhood landscape design that preceded them. This chronology could be traced back in time until you hit the designers and developers of the city. Theory on the evolution of landscape preferences suggests that our preferences as adults are primarily learned. If this is true and current residents lived their entire lives within PTC then the city's designers could have laid out residential landscapes of any character and style, put into place regulations to mandate the maintenance of what they laid out, and this would have become the dominant preference learned by residents. How did we arrive at our current preference and can we change it?

Veblen's writings on conspicuous consumption are important because he was lending insight to the social conditions in which our contemporary landscape preferences likely evolved. Social elites at the time he was writing were the only ones with the resources to maintain residential landscapes, and they used them to communicate power.
and wealth. However, the signal that this aesthetic originally communicated has now evolved to communicate other things such as pride and respect. Is it possible to develop an aesthetic that communicates pride and respect without using aesthetics leftover from an outdated social signal?

Kempton et al. (1995) has documented a steady rise of environmentalism in recent history in American culture. If this trend continues and the ecological impacts of the maintenance of residential lawns continue to receive increasing attention then we are provided with an opportunity to develop a new aesthetic. Pride of place and respect for neighbors could evolve into pride of local ecology and respect for the health and well being of your neighbors. The design cues that would communicate this pride and respect would likely be quite different than the ones that evolved to communicate power and wealth. Entire communities would unite, banding together to tear up their lawns and install landscapes that looked more like landscape number two from the ranking exercise. A national environmental awakening would certainly be welcomed by environmentalists, but is not a necessary step in order for the current aesthetic to evolve into something that does not threaten local ecology.

Community design can play a very important role in facilitating a shift in preference. People have learned to associate the residential lawn with the pride and respect they desire to communicate. However, we have seen that the design cues rather than being those inherent to the residential lawn, are contextually based cues of consistency, flow and balance. PTC developers installed individual residential lawns with minimal thought to neighborhood landscape design and did well to maintain this aesthetic by putting in place citywide ordinances regulating residential landscape
maintenance. Residents then roughly sorted themselves into neighborhoods by their preferences and negotiated whatever diversity was left through social process. The result has been strict adherence by PTC residents, as individuals, to the residential lawn aesthetic in attempts to achieve a desirable neighborhood appearance. By paying close attention to public owned landscaping that creates an appearance of flow and balance within neighborhoods (such as street trees), community designers can provide homeowners with opportunities to break out of the residential lawn aesthetic. With the desired appearance of the community already established, homeowners could be lent the freedom by their neighbors to experiment with new aesthetics on their own properties that may also communicate pride and respect. What's more, if community designers install residential landscapes other than the residential lawn from the time of construction not only will an alternative already be established, but it will also provide much of the momentum necessary to perpetuate itself in that localized context.

Another tool to be manipulated in pursuit of a changing aesthetic is regulation. PTC's citywide regulation prompted by design principles that emphasize landscape appearance, empowered homeowners to pursue the development of social process to negotiate neighborhood residential landscape issues. However, we saw that the presence of the homeowners association in the OH neighborhood may have discouraged the development of social process other than legal leaving homeowners as slaves to the details of deed covenants that do not accurately reflect the desires of residents.

What's more, it seems as though residents of high property value neighborhoods are the least receptive to deviations from the standard. Homeowners associations are typically found in high property value neighborhoods where it seems that the power of
dynamic negotiation associated with active social process is most needed and most
discouraged. Further research focusing on spatial organization of neighborhoods could
clarify the role of varying lot size and placement of homes on lots in high property value
neighborhoods that could be responsible for the absence of active social process.

The regulation of residential landscape maintenance is a valuable tool but only
when applied at the appropriate spatial and political scale. Where distinct neighborhoods
exist in the presence of broad regulation, homeowners are more than capable of
developing social process to negotiate whatever remaining regulation is needed in a self-
policing manner mediated by social benefits and consequences.

People are attached to the residential lawn aesthetic because they have learned to
associate it with the ability to communicate pride and respect. However, this aesthetic
uses design cues that evolved for a different communicative purpose than the one that
people desire today. As such, there is room for these dated design cues to evolve into
new ones, maybe even new ones that are more closely associated with the information
being communicated. Planned development can help to facilitate a process of change.
By choosing the community as the scale at which to design landscaping sensitive to
neighborhood dynamics, emphasizing the importance of ecological conservation, and
imposing regulation at the appropriate scales community designers can facilitate not only
the evolution of a new landscape aesthetic, but also the development of a higher quality
of suburban life.
BIBLIOGRAPHY


APPENDICES
Appendix A

Interview Protocol

Framing Landscape Maintenance Behavior
1. Who makes landscape maintenance decisions in this household?
2. Do you maintain your lawn yourself; use a professional, or some combination?
   a. Why have you chosen to do maintenance on your own/use a professional?
3. Did you build this home? How long have you lived in this home?
   a. If you built this home, did you have any say in how the landscaping was left to you by the builder?
4. How long do you expect to live here?
5. Have you made any major changes to your landscape?
6. Very generally, what are some characteristics of a well-maintained residential landscape?
7. Very generally, what are some characteristics of a residential landscape that is not well maintained?

Maintenance Motivation
1. What motivates you to maintain your landscape in the manner that you do?
2. Are there benefits to keeping a well-maintained residential landscape?
   a. What are they?
3. Are there consequences to not keeping a well-maintained residential landscape?
   a. What are they?

Community and Familiarity
1. Is there a homeowner’s association in this neighborhood?
   a. If so is it active? What role does it play in the neighborhood?
2. Do you know the other residents of this cul de sac personally?
   a. How much contact do you have with them? What kind of contact?
3. Are you familiar with the landscaping of your cul de sac? To what extent?

Property Preferences
1. Which is the most desirable property in this cul de sac, (based on physical/environmental factors)?
   a. What are its characteristics that make it desirable?
2. Which is the least desirable property in this cul de sac, (based on physical/environmental factors)?
   a. What are its characteristics that make it undesirable?

Personal Factors
1. What is your occupation?
   a. Do you feel that your occupation has had any impact on how you maintain your landscaping?
2. What is your education level?
   a. Do you feel that your particular educational background has had any impact on how you maintain your landscaping?
3. Have you had any specific gardening or landscape maintenance training?
Appendix B

Common Landscapes
[Descriptors free listed by participants of NL1, NL2…/OL1,OL2…/OH1, OH2…]

1

[Half dead grass, poor unkempt/nice landscape poor grass/, weak grass nice look]

2

[Complimentary composition, continuity/separation of lawn and flowers/overgrown, cluttered]
[Clean natural, lush neat, continuity/I like the division of grass and pine straw bed/overgrown]

NL Neighborhood
[Descriptors free listed by participant1, participant2…]

[Grass not mowed furniture stacked, rental, needs better lawn care and bed definition]
[Well-maintained (kid’s goal), rental rental rental]

[Lack of pruning, poor grass, not well designed but care put into it, nice home done work]
Good color and neat, some design strengths and cared for, this is my house.

Well-maintained, bad design, nice lawn sometimes it’s better to not add a bed.
Better pruning, cared for, great but needs growth

Minimum number of plants, poor grass, rental, builder installation
Lack of plants (pots inappropriate), not well designed but cared for rental, homeowner run amok

Good color and grass, poor, decent beds and lawn
[Minimum number of plants, rental poor, bad builder choices]

OL Neighborhood
[Descriptors free listed by only participant in OL to list descriptors]

[Too many assorted flowers and shrubs]
[Too much shrubbery]

[Grass nice shrubbery shaped]
[Pretty flower garden]

[Attractive trellis and trees]
[Needs some flowers and definition]

[Needs shrubbery balanced in front of house]
[Different perspective]

[Good balance]
OH Neighborhood

[Descriptors free listed by participant1, participant2…]

[Neat but too plain]

[Poor grass, let fungus spread]
[Private, nice balance, nice use of color]

[Too hidden]
[Nice lawn, my yard, poor mower set-up]

[Warm]
[Clean look]

[Uninspired, very vanilla]
[Pleasant]

[Needs taller shrubs by the house]
[Erosion problem in lawn-no visible landscaping at house]
# Appendix C

## Code Dictionary

<table>
<thead>
<tr>
<th>#</th>
<th>CODE</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>Process</td>
<td>A sequence of events directed at accomplishing an objective. Maybe include the flow or transition in state, as well as turning points leading to changes over time and incorporating tactics, methods, techniques or decisions for meeting needs. Refers to the way of accomplishment.</td>
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<tr>
<td>2</td>
<td>Practice</td>
<td>Regularly occurring, manifest behaviors. This may include those directed at maintaining residential landscaping. Refers to the manner of accomplishing objectives as distinct from the Process of accomplishment.</td>
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<td>3</td>
<td>Background</td>
<td>References to life experiences, training, education and personality traits of the participant. This may include places lived, past experiences with neighbors, development history of their neighborhood, current occupation and childhood interactions with parents.</td>
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<td>4</td>
<td>Context</td>
<td>Information on the surroundings of the interviewee that put their comments into a larger context. This may include general descriptions of their neighborhood, of Peachtree City, or their place of employment. The context is relative to the individual, not to the city or project itself.</td>
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<td>5</td>
<td>Events</td>
<td>Specific activities or phenomena that occur infrequently whether social (i.e. parties, weddings), or environmental (i.e. drought, torrential rains). Also refers to action undertaken to establish or alter landscaping, home or property.</td>
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<tr>
<td>6</td>
<td>Beliefs</td>
<td>What people think the world is like. Often expressed as opinions of people, places, activities or understanding of processes (both intentional and environmental).</td>
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<td>7</td>
<td>Relationships</td>
<td>Patterns of interaction between two or more people including neighbors, professional associations, romances, friendships and enemies. Describes interpersonal relations between people as well as between people and organizations.</td>
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<td>8</td>
<td>SES</td>
<td>Socioeconomic background of informant, neighborhood, community or city.</td>
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<td>9</td>
<td>Government</td>
<td>Discussion of government and governance issues at any level. This could include state, county, city and neighborhood ordinances and covenants that affect individual practices.</td>
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<td>10</td>
<td>Information</td>
<td>Discussion of where and how participants gain information on residential landscaping.</td>
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<td>11</td>
<td>Problem</td>
<td>Discussion of problems affecting residential landscape and home. This could include problems with turf grass status, erosion, quality of lawn service, or property topography.</td>
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<td>12</td>
<td>Quote</td>
<td>Any quotable statement.</td>
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<td>13</td>
<td>Reference</td>
<td>Individual or organization about which participant imparts information for potential contact.</td>
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<td>14</td>
<td>Values</td>
<td>Guiding principles for the participant of what is moral, desirable or just.</td>
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<td>15</td>
<td>Future</td>
<td>Description of uncertain events that may or may not happen in the future. Includes, moving to a new residence, continued drought, or future landscape modifications.</td>
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<td>16</td>
<td>Cues</td>
<td>Description of landscape characteristics or properties that are considered by participant to be reliable manifestations of maintenance practices. May include grass color, bush and shrub trimming style, presence/absence of certain plants, colors, and detritus.</td>
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<td>17</td>
<td>Motivation</td>
<td>Reference to one’s motivation and/or intention for engaging in residential landscape maintenance. Could be economic, health, pleasure, community, or human/environment related.</td>
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<td>18</td>
<td>Audience</td>
<td>Discussion of degree to which participant takes note, or does not take note, of the design and condition of others’ residential landscape in their neighborhood.</td>
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Appendix D

Tabular Results

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*Cell values are image codes; bold columns are neighborhood-summed responses*