Nature, Culture and Big Old Trees: Human Relationships With Ceiba (Ceiba Pentandra) and Live Oak (Quercus Virginiana) in the Landscapes of Guatemala and Louisiana.

Katharine Anderson
*Louisiana State University and Agricultural & Mechanical College*

Follow this and additional works at: [https://digitalcommons.lsu.edu/gradschool_disstheses](https://digitalcommons.lsu.edu/gradschool_disstheses)

**Recommended Citation**

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor MI 48106-1346 USA
313/761-4700  800/521-0600

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
NATURE, CULTURE AND BIG OLD TREES:
HUMAN RELATIONSHIPS WITH CEIBA
(CEIBA PENTANDRA) AND LIVE OAK (QUERCUS VIRGINIANA)
IN THE LANDSCAPES OF GUATEMALA AND LOUISIANA

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Geography and Anthropology

by
Katharine Anderson
B.A., University of Vermont, 1976
M.A., University of Vermont, 1981
May, 1997

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
ACKNOWLEDGMENTS

The last three years have been a series of encounters with remarkable, generous people and extraordinary trees. This dissertation is a synthesis of the stories they told me. Like any project of this size, it has been a community effort and I am profoundly grateful to all who helped.

My greatest debt is to my advisor, Miles Richardson, who was inspiration, critic, mentor, and friend. He guided me through the conception of the project and development of the themes, joined me on several field trips, cheerfully read some truly rough drafts and through his thoughtful comments helped me find my voice. I will always be thankful for his insights in the topics of nature, culture and place; his wisdom and good humor; and his genuine welcome whenever I knock on his door.

Bill Davidson, too, was central to this project. He has been researching ceibas in Middle America for years, and generously shared his information, photographs and enthusiasm. I hope my insights add to his much more geographically extensive, long-term research into the role of this fascinating species in Middle America. Thanks also to Kent Mathewson, who pointed out relevant literature on geographic studies of trees, urging me to expand my readings in what he has dubbed "cultural phytogeography." Neil Odenwald responded immediately to this study of a tree he loves and knows well, and not only spoke at length with me but also steered me to other sources of information in Louisiana.

Suzanne Turner and Richard Condrey, two Louisiana State University faculty members not on my committee, not even in my department, generously gave their time and pointed out sources and points of view that proved central to some of the arguments. My thanks to both of them. Suzanne also inadvertently helped me articulate my research methods when she asked me to speak to her graduate seminar in landscape architecture.
Financially, I am indebted to Louisiana State University for the generous four-year graduate fellowship that allowed me to return to graduate school. The fieldwork in Guatemala was made possible by two grants from the Robert C. West Field Research Awards, in the Department of Geography and Anthropology at LSU, and a third from the local chapter of Sigma Xi. I am deeply grateful for this support.

For providing invaluable information that forms the basis of this thesis, I wish to thank all who spoke to me, at length or briefly, about live oaks and ceibas. Among those who generously gave time out of their own busy lives to answer my questions are, in Louisiana: Paul Orr, Randy Harris, Jim Foret Sr., Jim Foret Jr., Betty Baggert, Verlyn Bercegeay, Glenn Conrad, Derek Green, Gercie Daigle, Phil Thompson and Steele Burden; in Guatemala: Juana Itzol Faulkner, Alfonso Arrivillaga, Francisco Cane Acosta, Edgar Geovany Mendoza, Helen De Soto, Mike Shawcross. Many others welcomed me into their homes, helped me find specific trees or told me their own tree stories. My thanks to all of them.

My field trip notes in Louisiana all bear the names of people who accompanied me on "oaking" expeditions. They drove, measured trees, took notes, checked maps, made suggestions or just listened as I babbled, and their involvement and interest made the whole thing fun. Other fellow graduate students were always willing to talk about the work. My great thanks to Kathleen Kennedy, Esther Shaffer, Katie Algeo, Michael Hawkins, Delphine Douglas, Sherri Arnoni, Andy Maxwell, Ily Fernandez, Tanya Kalischer, Chris Coggins and Bonnie Henderson.

I am fortunate in having a number of friends with excellent editorial skills. For helping me through difficult stages of the writing process and substantially improving the final product, many thanks to Judy Chaves, Ruth Page, Dan Gade, Cindy Wolcott and Scott Smiley. Thanks also to Ed Cullen, who did such a good job interviewing me for a newspaper article that he not only produced a fine story, but helped me sort out my thoughts when I was stuck and get on with the writing.
For generously providing office space and encouragement during the writing I am grateful to David Barrington at the University of Vermont. Damon Little I thank for his help in dealing with the mysteries of computer programs, and Lou Izzo deserves a hero's reward for his help during the final stages of formatting and printing. Sean Fairhurst prepared the maps of Guatemala.

Several families and individuals gave me food and shelter during parts of the last five unsettled years, when I was away from home. My deepest thanks for the wonderful companionship, fine meals and laughter to Judy Chaves and Craig Heindel and their daughters Naomi and Ruth; to Ruth and Proctor Page; to Jeanne and Dale Goldhaber; to Than Vu; and to Regina Hoffman.

My sons, Damon and Toby, have encouraged me throughout this long process. I thank them both for their tolerance of an often preoccupied mother, for lugging around countless boxes whenever I moved, and for every phone call, letter and visit during the sometimes lonely years. Finally, I want to thank my father for his constant, faithful calls to encourage me and his unwavering belief that someday I would finish.
# Table of Contents

Acknowledgments .......................................................................................................... iii

List of Figures .................................................................................................................. viii

Abstract ............................................................................................................................ xi

Chapter 1: Geography and trees ............................................................................... 1
  Landscape .................................................................................. 6
  Place ....................................................................................... 11
  Domestication ....................................................................... 12

Chapter 2: Research Methods ................................................................................. 16
  Historical Background ............................................................. 16
  Fieldwork .................................................................................. 17
  Analysis .................................................................................... 26
  Reflections on Fieldwork ............................................................. 28

Chapter 3: Natural History ............................................................................ 31
  Ceiba, *Ceiba pentandra* ........................................................... 31
  Live Oak, *Quercus virginiana* ................................................. 48
  Comparisons ............................................................................ 67

Chapter 4: Cultural History ........................................................................ 70
  Ceiba ........................................................................................ 71
  Live Oak .................................................................................. 97
  Comparisons .............................................................................. 138

Chapter 5: Human-Tree Relationships ............................................................. 143
  Trees as Places ........................................................................ 143
  Effects on Trees ....................................................................... 173

Chapter 6: Nature, Culture and Big Old Trees .......................................................... 191
  Landscape .................................................................................. 192
  Place ....................................................................................... 194
  Domestication ....................................................................... 195
  Nature and Culture .................................................................. 198

References ...................................................................................................................... 202

Appendix A: Field Trips ............................................................................. 218

Appendix B: Interviews .............................................................................. 220

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
LIST OF FIGURES

1.1 The ceiba of Palín, Guatemala (above) and Oak Alley, Louisiana (below) .......................................................... 3

2.1 Location of study areas, Guatemala and Louisiana .......................................................... 18

2.2 Guatemala research sites and roads traveled ............................................................ 21

2.3 Louisiana research sites and roads traveled ............................................................. 22

3.1 Mature ceiba tree in Petén rainforest, showing buttressed roots ........................... 32

3.2 Crown of ceiba tree in Petén rainforest, showing branches covered with epiphytes .................................................... 33

3.3 World distribution of Ceiba pentandra ................................................................... 35

3.4 Leaves and fruit of Ceiba pentandra .................................................................. 37

3.5 Natural distribution of ceiba in Guatemala ............................................................. 40

3.6 Twelve to fifteen year old ceiba, showing whorled branching pattern and scattered spines on trunk (Ciudad Vieja) .................................................... 45

3.7 Mature, open grown live oak ............................................................................ 49

3.8 Leaves and acorns of live oak .......................................................................... 52

3.9 Natural distribution of Quercus virginiana in North America .......................... 55

3.10 Natural distribution of Quercus virginiana in Louisiana ................................... 57

4.1 Cultural distribution of ceiba in Guatemala .......................................................... 72

4.2 Tree-stone, representing the ceiba as World Tree (Copan ruins) ..................... 75

4.3 Traditional Maya village around ceiba tree, nineteenth century (adapted from: Stoll 1886) .......................................................... 79

4.4 Ceiba in plaza of San Francisco Petén (planted circa 1828) .............................. 79

4.5 Ceiba at Black Christ pilgrimage center, Esquipulas ........................................... 81

4.6 Ceiba in plaza of Santa Elena, Petén ............................................................... 83
4.7 *Simbolos patrios* (national symbols) of Guatemala ................................. 89
4.8 Ceiba tree in front of school, San Antonio Aguas Calientes .................... 90
4.9 Young ceiba in plaza of Guatemala City (Photo by William Davidson) ....... 92
4.10 Roadside ceiba with *comedor*, Amatitlán ............................................. 95
4.11 Cultural distribution of live oak ............................................................. 98
4.12 Live oak allee at Rosedown plantation, St. Francisville ......................... 106
4.13 Lone live oak in sugar cane field .......................................................... 113
4.14 Evangeline Oak, St. Martinville ............................................................. 118
4.15 Nineteenth century Catholic church with live oaks (Donaldsonville) ...... 123
4.16 Our Lady of the Oak shrine in Maringouin ........................................... 124
4.17 Catholic cemetery with live oaks ........................................................... 126
4.18 The Cathedral Oak in Lafayette, First Vice President of the Live Oak Society ........................................................................................................ 129
4.19 Homes with live oaks. Above, traditional home in shade of old tree at Ambrosia Plantation, St. Francisville. Below, city home in Baton Rouge ........................................................................................................ 131
4.20 Homes with young live oaks. Above, prairie home with single tree in back. Below, modern suburban home in Baton Rouge with two trees in front ........................................................................................................ 133
4.21 Live oaks in front of courthouse, Baton Rouge ...................................... 135
4.22 Logos using ceibas .................................................................................. 140
4.23 Logos using live oaks ............................................................................ 141
5.1 Trees as places. Above, people relaxing in shade of Friendship Oak, Hammond. Below, Imperial Oak, Hammond ..................................................... 144
5.2 Market under ceiba of Palín ................................................................. 147
5.3 Above, the Back Brusly Oak in its setting. Below, townspeople with portrait of the tree oak used in announcement of town’s 95th birthday celebration. ................................................................. 150

5.4 The Gossip Tree, Golden Meadow. ................................................................. 152

5.5 Old lone live oak on River Road, now marking private home ....................... 155

5.6 Children playing on live oak, City Park, New Orleans ............................... 157

5.7 Live oak with elaborate tree house, Maringouin ......................................... 159

5.8 Child dwarfed by giant roots of ceiba, San Francisco Petén ............................ 160

5.9 Private Mary shrine at live oak in Grand Isle ............................................. 163

5.10 Woman seeking inspiration among live oaks of City Park, New Orleans .... 164

5.11 Signs that identify trees. Above, the Randall oak, New Roads, Louisiana. Below, ceiba of Colonia Hunapu, Antigua. (Translation: Maximiliano Najero Mejicanos planted this ceiba in the year 1965. With love of his country and his neighborhood.) ........................................ 167

5.12 Young ceiba for sale at nursery, Siquinala ............................................... 175

5.13 Joey Billeaud with live oak nursery stock, Live Oak Gardens .................... 176

5.14 Ceiba in Jocotenango with man who planted it, showing growth point removed by vandals ................................................................. 181

5.15 Elaborate structure around ceiba of La Democracia ................................. 184

5.16 Wooden structure around live oak in Hammond ....................................... 185

5.17 Live oaks under stress. Above, crowded conditions on street of Donaldsonville. Below, trees in parking lot at LSU campus ....................... 188

6.1 Children at home among branches of live oaks, New Orleans .................... 200

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
ABSTRACT

The ceiba in Guatemala and the live oak in Louisiana are examples of two trees that attain great size and age within the cultural landscape. Humans have adopted both as symbolic trees; they protect, encourage and even plant them. As the trees age, they become historic landmarks, are indicators of important places, and give character to the landscape. Although each tree is native within portions of each study area, both have taken advantage of human disturbance to expand beyond their original habitats. In addition, they have been moved deliberately by humans to new areas well beyond their geographical limits. Other parallels include their presence in places like schools, public parks and plazas, along roadsides, in sacred places and in front of government buildings.

The stories of how they came to prominence, however, are different. The ceiba was the tree of life among the ancient Maya. It has survived conquest to become the national tree of Guatemala. The live oak's importance in Louisiana's landscape developed rapidly in the last 150 years and is in part the result of European attitudes toward Old World oaks transferred to a New World species. Examining the everyday interactions and landscape roles of the trees reveals that while the ceiba is a formal, public tree, live oaks are often planted on private land and treated as individuals, even given human names. Other differences include the far more specialized care given to live oaks, their economic value as aesthetic objects, and their planting in large groups.

Despite their differences, both trees are examples of untamed, wild creatures placed deliberately in the center of the built environment. Their physical presence and symbolic significance exert a strong influence on the experience of place. Human relationships with big old trees challenge the usual distinction between wild and domesticated species, emphasizing the importance of understanding the ongoing interaction that shapes the lived-in landscape. They suggest the unity rather than the separation of nature and culture.
CHAPTER 1—GEOGRAPHY AND TREES

"Palín, La Ceiba," shouted the bus driver as he pulled to stop on the highway. I hurried to squeeze through packed bodies to the front of the bus, trying not to knock anyone in the head with my backpack, wondering if he had added the bit about ceiba for me, of us headed up a dusty street that led into town, most with bags and baskets of produce, the lone gringa in the crowd. It was hot and noisy outside on the highway. A group me with camera, tape measure, notebook and water bottle. Foreign tourists are rare here. This is a Guatemalan place.

The ceiba is the national tree of Guatemala, and the small town of Palín, about an hour from the capital by bus, has the most famous ceiba in the country. "Enorma" people had said when describing it to me, holding their arms out as if trying to get them around a huge trunk.

Finally I could see something dark ahead, a promise of shade in the glaring hot sunlight of the walled streets. At first it was just a bit of branch reaching into the street, but by the time I reached the church steps, the huge hulking shape of the ceiba had spread out to cover the whole plaza in deep shade. Within the area defined by the enormous branches was a bustling market, hundreds of people making their way among piles of brilliantly colored fruits, vegetables and flowers. It is an overwhelming sight; it seems impossible so many people can fit under one tree.

As I stepped into the tree's shade, the temperature dropped, the light became comfortably dim, and I focused on the intense activity all around me. Piles of ripe pineapples and tomatoes were arranged next to stalks of izote flowers and cherimoyas; corn, beans and squash shared blankets with temperate apples and pears. Women weighed produce on hand-held scales, wrapped them in paper or plastic, and handed them over in exchange for coins. Most were indígenas, Mayan women identifiable by their distinctive traditional clothing in bright colors. Drawn to the center, where a
massive cement structure surrounds the huge, painted trunk of the ceiba, I joined others
who sat on the concrete steps. From this raised observation post we could survey the
whole market, and the constant activity of bargaining, polishing, sweeping, gossiping,
eating and playing.

As I sat there, sharing my lunch with a vacant-eyed woman that had wordlessly
stretched out her hand to me, I was struck by the incredible contrast with another
famous tree-place I had visited not long ago. Oak Alley in Louisiana is also shaded by
ancient old trees, and draws visitors from far away to see this most famous icon of the
state's unofficial symbol, the live oak. But that place is fenced off from the road, quiet,
visited only by those who have paid an entrance fee. The double row of 28 trees sets off
a magnificent Greek Revival mansion built in the 1800s by wealthy, slave-holding
plantation owners. Once the entrance drive to their home, the allee is now a protected
space, like a sacred grove, the site for occasional weddings and a summer dinner theater
(Fig. 1.1).

Big old trees like ceibas and live oaks play an important part in shaping the
cultural landscapes of their regions. There are many examples of such trees throughout
the world. Because of their size, they physically alter the microclimate for humans,
providing settings for activities like the Palin market. Their age makes them like
monuments or ruins, gathering stories as they grow older. Human settlements,
agricultural fields and travel routes often adjust to the presence of these giants, and the
trees can come to represent places or regions, or even specific cultural groups.

Surprisingly few studies have looked at the history of how such important
symbolic trees have come to be where and what they are in the landscape, nor at the
details of the ongoing, changing relationships with the people that live with them.
Perhaps this is because such a study requires crossing traditional boundaries among
disciplines and even within the subfields of geography. The topic is one that falls most
comfortably within the broad category of cultural geography. But since trees are

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 1.1. The ceiba of Palín, Guatemala (above) and Oak Alley, Louisiana (below).
biological organisms, not inert objects, one has to understand their life cycles as well. Biogeography is the subfield of geography that deals with plants and their distributions, but the focus is overwhelmingly on the physical and biotic (non-human) factors that determine the current or past distribution patterns of certain species or groups of plants (McLaughlin 1994). Domestication studies, sometimes placed within the field of biogeography, combine physical and cultural aspects of geography, but these deal primarily with crops, not symbolic or otherwise prominent plants in the landscape (Cox 1993). I believe it is impossible to understand the trees' interaction with people without considering their biological characteristics.

Not all big trees become symbolic. Certain species, and often certain individual trees, are identified and honored by people. The two species I have chosen to look at more closely are the ceiba (Ceiba pentandra [L.] Gaertn.) of Guatemala and the live oak (Quercus virginiana Miller) of Louisiana. My goal in considering the two together is to have a source of comparison, to search for patterns and contrasts that might give insights into the larger questions of human interactions with trees. Both are among the largest and longest lived trees in their area, and neither is valued for an economic product today. In telling their stories I am seeking to explain how each has come from the wild to the domesticated habitat and how that has affected both people and trees. It is a landscape study in that I consider where exactly each tree is most prominent today and trace the cultural history of this pattern. It is study of place in that I explore the physical and symbolic ways trees and people engage each other and thus create a sense of identity. It is biogeographical in that I focus on the trees as biological organisms and seek to position their relationship with humans within the larger context of domestication. Ultimately, it is a study of the relationship that lies at the heart of much geographical inquiry, the relationship between nature and culture.

There is a large and growing literature on the topic of nature and culture, much of it concerned with the social construction of nature, especially how conceptions of
nature reinforce hegemonic social orders and economic systems of exploitation (Katz and Kirby 1991; Merchant 1992; Pepper 1993). While some of this is relevant to my work, as is noted in the discussion below, my research suggests that in their everyday interactions with trees in the landscape, people reveal other aspects of their relationships with the natural world. My focus is on the individual, specific and observable, from which I draw conclusions about more general patterns. One helpful distinction is between nature as the "great amorphous mask of otherness that encloaks the planet" and Nature as a "system or model of nature which arose in the West several centuries earlier" (Everden 1992). It is the former, lower case nature, that is under discussion here.

Here are some critical definitions that are central to my approach.

• Trees. Trees are woody, perennial plants, generally with a single main stem. Arbol is the Spanish term for tree. An important distinction to keep in mind is between trees and forests. Forests are vegetated areas in which trees predominate, but also include other plants, animals and insects. They have their own identity and meanings (Schama 1995; Williams 1989). But my concern here is with trees, individual or planted in certain arrangements in the landscape by people.

• Landscape and cultural landscape. Carl O. Sauer and others developed the idea of the gradual transformation of the earth from a pristine "natural" condition to one adapted to human livelihood, calling the result the cultural landscape (Sauer 1925). It has become fashionable to drop the cultural designation, since one can argue that humans have affected all areas of the globe and the very idea of landscape is a human construct. This is all true, but I believe the term cultural landscape is still useful and intuitively understood. There is a continuum of landscapes from those most managed and constructed to those barely touched or seldom visited by humans. In the context of this study, I use both terms, referring to the cultural landscape when I want to emphasize the lived-in parts—towns and cities, villages, agricultural areas.
• Place. Landscapes are made up of places. We experience and create place by our direct engagement through time with objects and people.

• Culture. There are two levels of meaning of this term. The first refers to culture as that which makes us human. A second meaning has to do with specific culture groups, for example the Mayan people of Guatemala or the Cajuns of Louisiana.

• Nature. For purposes of discussion, I use this term to refer to the environment that is not specifically human. Thus nature includes life forms such as plants and animals, and features like mountains, lakes, rivers and so forth.

• Domestication. My focus is on domestication as relationship. I am interested not so much in the genetic changes that turn a wild plant into a crop, as in what exactly goes on between people and plants living together in domestic situations and what that reveals about nature and culture.

LANDSCAPE

Geographers have long acknowledged the power of trees to give character to regions. Although documenting the practical manipulation of certain species or planting patterns, they have shown the result can create an enduring visual image with long lasting effects on the landscape. Both Smith (1916, 1987) and Parsons (1962) described the productive, stable, and attractive system of managed oak parklands used for pig-production that still characterize areas of southwestern Spain and Portugal. In their study of the chinampa beds of Mexico, West and Armillas (1950) focused primarily on vegetable production, but the accompanying photographs illustrate the visual dominance of the columnar willow trees that edge the beds in this watery landscape. Hedges, planted to divide agricultural land, have helped to create many regional landscapes, including examples in France (Gade 1978), England (Hoskins 1956), and New Zealand (Price 1993); their composition and arrangement indicate changing agricultural practices as well as attitudes toward the environment.
Certain species of trees introduced to new areas can add a new element to the cultural landscape or even transform whole regions. In the American Midwest, a brief craze for Osage oranges as hedgerow trees has left a lasting legacy of old trees in that part of the country (Winberry 1979). The Lombardy poplar, introduced and spread among the Mormons of Utah as a windbreak tree, has become so identified with their landscapes they are now called Mormon poplars (Francaviglia 1978). Eucalyptus trees from Australia have transformed landscapes all over the world. Dickinson (1969) documented how they have changed formerly treeless landscapes of highland Peru and eucalyptus in California are serious fire hazards because they burn so readily.

Some species remain as legends in the landscape, like the once vast forests of Cedars of Lebanon (Mikesell 1969; Darby 1956). The elms of England, planted extensively to provide fuel and timber, eventually became such important components of the cultural landscape that when they succumbed to Dutch Elm disease and disappeared, their loss was devastating (Clouston and Stanfield 1979; Hoskins 1956; Richans 1983). Curiously, while the loss of the elms in England resulted in several volumes devoted to memorializing their role in landscape and literature, I know of no geographic study of the results of the dying of the elms on the landscapes of New England, although the changes were profound and are still clearly evident.

Other trees outlive the people who planted them, as well as the reasons for their planting, and come to look like natural members of the landscape. Examples of planted trees that appear to be native stands in the United States are eucalyptus and some of the palms in southern California, cottonwoods along streamsides in western Nevada or pines in southwestern Wisconsin (Vale 1982). When orange were introduced into Paraguay they escaped so quickly and successfully that they were soon believed to be native (Gade 1976b), and apples have accomplished a similar feat in Vermont (Anderson 1984).

Ancient trees in the landscape provide information to geographers and others about previous times. Witness trees used in surveying have helped establish past
vegetation patterns, and tree rings tell of past climate and changes in forest cover. Often
trees outlive the homes they were planted to shade, and so yield clues about past
settlement patterns. Open-grown giants surrounded by forests tell of earlier land uses or
ecological stages. Yet I have found few geographic studies that concern what these
giants mean to the people who live near them, though even in Pliny’s time such trees
were revered by Greeks and Romans (Pliny 1952).

Much of what people do in relation to trees can be traced to sacred and aesthetic
motives rather than economic reasons, and these can have some of the most important
and long-lasting consequences. Semple (1931) remarked on the prominent role of sacred
hilltop groves in ancient Syria and Palestine, and the protected groves dedicated to the
gods on promontories all along the Mediterranean coast. She traced the development of
public parks and tree lined walks around the Academies and gymasia to these sacred
groves. In India, sacred gardens and forests left relatively untouched through the
centuries now provide clues about earlier forest composition (Gadgil and Vartak 1976),
and sacred forests and trees continue to be an important component in land use patterns
of largely deforested highland Nepal (Stevens 1993). Sacred trees receive special
treatment in the landscapes of India and Africa (Majupuria 1989; Harlan, de Wet, and
Stemler 1976).

A fine example of the story of one symbolic tree in the cultural landscape is *The
Churchyard Yew and Immortality* (Cornish 1946). Cornish was inspired by one of his
favorite childhood landscape images, the giant old yews of English village cemeteries. He
pieced together a story that not only showed the history of the trees but how the image
was still affecting people in his day. It is a story of cultural diffusion and adaptation as
Norman Christian missionaries in the eleventh century replaced their familiar southern
cedars with the only native evergreen, the yew, a tree that also had sacred connotations
among the Druids. It is also a story of how through centuries of changing religious
traditions the trees persisted and are still being planted in the traditional patterns.
Cornish's study brings to light some of the underlying forces that shape the development of landscapes and how little aware we are of the origins of many familiar components. It also shows how images we live with, especially ones associated with sacred places, have a way of persisting.

Another place people tend to repeat familiar patterns is in planting trees around their dwellings. If we agree with Jackson that the goal of constructing a dwelling is the "recreation of Heaven on earth" (Jackson 1952a:6), then planting styles and choice of species also reflects notions of the sacred, even if indirectly. At the time of settlement of North America, plantings around homes in Europe followed certain styles. Both practical and aesthetic plantings were long established and certain species favored for particular kinds of places. There were informal cottage gardens and the more formal French patterns, as well as influences from the enclosed geometrical patterns developed in the Mediterranean lands.

It took some time for the pioneers to consider planting trees in their new homes; their first efforts were directed at cutting the vast forests. It was only in the mid-nineteenth century that landscaping became common among other than the wealthy. Homeowners were influenced by Downing (1991), who adapted English styles of the period to North America. In his discussion of trees he reflected the current belief that trees were important to healthy living, in both city and country, and he promoted their use along town roads, at college campuses and at cemeteries. In his choice of species, he showed the English preferences for species, which valued oak above all, as well as beeches and elms. He did, however, recommend the use of native species whenever possible, noting these would do best (Jackson 1952b; Waugh 1921). It is to this period of tree plantings that we owe the enduring idealized images of America, like the New England village with its familiar elms and maples (Meinig 1979).

As settlers moved west, they took their notions of what a home landscape should look like with them. Anderson (1957) commented on the distinctive square "forests"
planted around homes in the Midwest by settlers from the East, regretting that they were missing out on the experience of the plains by living within their familiar transported woodland landscapes. Sutton, in his study of conifer plantings in Nebraska, calls big trees "an event in a landscape that was once prairie" and talks about how their choice of species and planting arrangements reflected the pioneers' feelings for the landscape. He is rare among geographers in concluding that tree plantings are often more important than habitations in understanding about human settlements (Sutton 1982). Early in the twentieth century, the people of Tucson briefly transformed their city into a lush green oasis by planting thousands of exotic trees; water-shortages since then have again changed the landscape, now focused on water-conserving desert plants (McPherson, Gregory and Haip 1989).

Before the 18th century trees were not commonly planted in cities, and their use along boulevards, parks and other public spaces has developed largely since the early 1800s (Lawrence 1988; Zube 1978). In a world becoming more and more urbanized, the role of trees continues to change; we now have "urban forests" a term that would have been considered an oxymoron two hundred years ago. Although some have argued that large trees are important in cities because of their role in defining boundaries and travel routes, providing shade, extending outdoor living spaces, and giving contact with natural cycles, others suggest that only small trees fit within the constraints of crowded urban settings (Arnold 1980; Jones and Rossman 1988).

Much of the power of trees in the landscape lies in their symbolic meanings, which can have their origins in religious practices and beliefs as well as in constantly changing cultural images (Davies 1988). One of the most powerful image is the tree as the *axis mundi*, the center of the earth where communication between the worlds is possible; specific trees have represented this center in many different cultures throughout the world and some species are held sacred even today because of this association (Eliade 1969; Frazer 1922; Altman 1994). Trees have been used as symbols to reinforce
certain social or political structures in the landscape. Daniels (1988), for instance, described how the arrangement of trees and woodlands in the landscapes of Georgian England were deliberately manipulated to maintain the power of the elite over resources and to reinforce the image of the existing social order as natural. Species like the oak, which were equated with great families, as well as ash and elm, were off limits to the lower classes. In a similar argument, Lawrence (1993) suggested that the development of garden squares in London from the 17th to the 19th century (when trees were introduced) reflected the aristocracy's desire for control over land and segregation from other classes. Such use of trees, and associated symbolisms add another dimension to landscape interpretation. Trees, like all good symbols, can combine many meanings at the same time. While the oak on a country estate may well stand for the power of the aristocracy, the same species in another setting may have entirely different connotations. During the Revolutionary War for American Independence, the aristocratic oaks became liberty trees.

PLACE

The study of place is important in geography and has attracted the attention of anthropologists as well (Entrikin 1991; Richardson 1989; Richardson and Dunton 1989; Tuan 1991, 1993; von Maltzahn 1994). What makes trees as part of places so interesting is that they evoke biological and physical responses as well as cultural ones. Many place studies focus on the built environment and thus miss this opportunity to examine the interaction of nature and culture. Humans come from a long line of arboreal primates; interactions with trees ought to be of primary interest. One theory of landscape that concerns the biological response to trees is Appleton's prospect-refuge idea, which suggests that humans view their surroundings in terms of the balance between open and sheltered places (Appleton 1975). Trees belong to the category of refuge in the landscape, places from which to see and yet not be seen. Some related studies have suggested that preferences are for trees that are wider than tall (Heerwagen and Orians...
Big old trees with spreading shade thus become important focal points in the landscape.

Using the Palin tree as an example, there is a ceiba tree in a plaza, surrounded by various structures and all of the movable items people have brought to sell in the market. What goes on there most obviously is selling and buying; it is a market. It is also a Mayan place made clear by the clothing people wear. It is a place with distinctive smells and sounds. The symbolic aspect, communicated in what people say about it, is that this the biggest tree in Guatemala, and a sign at its base announces it is the national tree. All of these things establish this as a distinctive place. But they are only part of the reality. A few more hours of observation, and conversation with people who live there will show that this place changes. It has distinctive areas for different people. It can be a basketball court. It can be private space in which families eat together. It can be a miserably cold, deserted, wet place. There was not always a market here, and the tree was not always there either. In fact, it is not clear at all who put the tree there, or why. The tree may die. It will be a different place then.

DOMESTICATION

One of the main ways we classify plants is as either domesticated or wild, those which belong with us in the cultivated landscape and those that grow on their own outside of our control. Some of the characteristics generally attributed to domesticated species are that they are highly productive of whatever it is we use them for, that they have been altered genetically from their wild relatives and that they depend on humans for dispersal (Schwanitz 1966). Typical examples are corn, wheat and apples. There are many plants that do not fit neatly into either category, however. Oranges leaping the bounds of groves to become wild in a new place are one example. Wildflowers carefully planted in plowed gardens are another. Trees in general are problematic in this scheme, since many are managed, like the oaks of Spain, but not necessarily altered genetically or made incapable of surviving on their own.
Another way of looking at domestication is to focus on the relationship, the activity of interacting with the plants. Geographers have studied the process of domestication, taking for granted that a material benefit is to be derived from successful domestication (Johannessen 1966; Flack 1970). But a number of students of domestication have suggested that non-material reasons, including perhaps religious reasons, may be at the root of this way of interacting with nature (Anderson 1960:80; Rindos 1984).

Rindos (1984) in his re-examination of domestication and agriculture, separated the two concepts. He focused on domesticating behavior. Pruning trees, clearing away competing vegetation and protecting plants from predators can lead to physical and genetic alterations of plant species without agriculture. He applies the term "specialized domestication" to interactions with trees like the sugar maple that are managed in wild stands, and wonders about the non-domestication of timber crops. Other examples of interactions with trees are many. The Egyptians were known to move even large trees long distances and successfully replant them. Woodlands of England were highly managed areas thousands of years ago and the "forests" of the Middle Ages were not primeval forests but lived-in areas regularly harvested and managed for a wide range of crops and useful articles, a sort of semi-domestic landscape (Rackham 1976; Schama 1995).

In some ways, the interaction with these big trees resembles a model of animal domestication as presented by Bennett (1987). The trees are tamed rather than domesticated in the usual way of plants. Brought from the wild into the domestic setting, they are persuaded to live with humans during their lifetime, though if abandoned can revert to the wild. One of the things that distinguishes trees is their long life. Many generations of humans may live in relation to one individual tree. While they may not alter the tree genetically, they can alter it physically. They can dig it up and move it, cut
its branches, trample its roots, protect it from competitors. All these represent a form of interaction with the trees, to which the trees respond in varying ways.

Tree reverence is not dead in the so-called secular twentieth century. Evidence for its survival in the United States is in the Big Tree cult that surfaced in the nineteenth century, when people began pilgrimages to the "sacred groves" of *Sequoia gigantea* in California (Schama, 1995). Big and old trees continued to be identified and honored in books like *Historic American Trees* (Nicholson 1922), *The Triumph of the Tree* (Collins 1950) and *Wye Oak: The History of a Great Tree* (Preston 1972). The American Forests organization regularly features famous trees in its bi-monthly journal, including both ceiba and live oak (Haller 1985; Weekes 1979), and in its ongoing focus on large trees has published a guide entitled *Famous and Historic Trees* (Randall and Clapper 1976). The organization is now selling offspring of the nation's Champion Trees in a nursery catalog; purchasers receive an official certificate of parentage with their order. Trees all over the United States are featured in travel guides like those of the American Automobile Association, and some people make pilgrimages to the ancient bristlecone pines of California.

Humans have long related to certain trees almost as if they are also human, as if they are the equivalent of humans in the vegetable kingdom. Evelyn, in his seventeenth century compendium of tree care in England, said "what is homo but arbor inversa?" (Evelyn 1972). Certain species or individual trees have been selected for such honors in different parts of the world. In India, young women are ritually married to trees (Majupuria 1989). In the United States some have suggested that trees be given legal standing in cases of environmental protection (Stone 1974). A theoretical perspective that offers some explanations for relationship with big old trees is that of biophilia, which suggests that humans have an innate need to affiliate with other living organisms, and often choose large, charismatic species on which to focus (Kellert and Wilson 1993).
The idea of nature and culture as separate entities or concepts becomes blurred when we consider our relationship with trees. One of the clearest statements about this apparent paradox is that by Gottlieb (1992) in her study of the Beng in West Africa, titled *Under the Kapok Tree*. The kapok tree (*Ceiba pentandra*, the same as the tree in this study) in the center of Beng villages is at the same time a representative of the forest and a symbol of the human community. Without it there is no village, and it is the only tree in town. This same situation exists in many forms throughout the world. I would argue that nature, in the form of trees, is right in the core of culture, that it is part of how we define ourselves.
CHAPTER 2: RESEARCH METHODS

Studying relationships between people and plants involves knowing about the plants and their characteristics, the people involved, and the nature of the interaction in the landscape. I approached this as a cultural geographer with a focus on trees. There are no clear-cut methods for this kind of study, combining as it does cultural, biological, historical and visual aspects. My solution was borrow liberally from a variety of traditions.

Trees, and particularly the two chosen for this study, are loaded with symbolic meaning and as Entrikin (1989:41) has pointed out, "the study of these symbols, myths and metaphors is not easily accommodated with our prevailing conceptions of the logic of social scientific inquiry." To find out more about such implicit meanings, I turned to ethnography, a technique used more often in anthropology than geography. Although at first this was to be secondary, a way to add depth to my study of the trees' role in the landscape, it became one of the most important sources of information on a wide range of topics. Besides providing insights into the role of trees in the landscape and in people's lives, I learned about tree physiology, age, and history and about specific trees and topics to investigate.

HISTORICAL BACKGROUND

Two previously published works on live oaks, *Live Oak Lore* (Orso 1992) and *Live Oaking* (Wood 1981), were invaluable in providing information and references that helped to trace the natural and cultural history of live oaks in Louisiana. Travel descriptions and guides from early ones like those of Bartram (Van Doren 1928) in the American Southeast and Sapper (1897) and Stoll (1886) in Guatemala to twentieth century examples like *Louisiana: A Guide to the State* (Writers' Program 1941) were a great help in this work. For taxonomy and distribution I have relied on previously published works. Nixon's (1984) revision of *Quercus series Virentes* was most helpful for the live oak. The last major study of ceiba was that by Baker (1965).
Some references came by accident as I browsed used book stores, including the *Monografía Antológica del Arbol* (Polonsky Celcer 1962), a collection of essays and poems devoted to trees, culled from a wide range of Central American authors, and focused largely on ceibas. It yielded stories of specific trees, suggested several to visit and gave evidence of the role of ceibas and other trees in Guatemala. Other valuable historical references encountered the same way were monographs of the Petén (Soza 1957) and several other regions.

Several special libraries had unusual resources. The Hill Memorial Library of Louisiana State University contains plantation diaries that gave some insights into the relationships with live oaks in the nineteenth century; it also has an extensive map collection, including some of the first maps drawn of the region, several of which noted live oaks. One of the vertical file categories was on live oaks, with newspaper clippings dating back to the 1930s. Tulane University's Latin America collection was a regular destination during this phase of research, both for its excellent collection and fine working atmosphere. The University of Southwestern Louisiana in Lafayette has Edwin Stephens' papers from the early days of the Live Oak Society, along with an extensive vertical file on live oaks. In Guatemala, at CIRMA, a privately funded collection of Latin American studies in Antigua, Guatemala, I found many local histories and descriptions that helped establish the age of certain ceibas. Several local town libraries were also helpful, specifically the St. Martinville public library in Louisiana, which had back issues of the town newspaper from around 1900 with articles on the Evangeline Oak, and the library in Palencia, Guatemala, where the librarian turned up a history of the town with a photo of an infamous ceiba that is now gone. The Live Oak Society has its list of members and historical records which Verlyn Bercegeay, the Secretary, shared with me.

**FIELDWORK**

The fieldwork had a regular pattern, though it was different in some ways in the two study areas (Figure 2.1). In Louisiana I could travel by car, either alone or,
Figure 2.1. Location of study areas, Guatemala and Louisiana.
frequently, with a friend who could drive while I took notes (finding volunteers for this was easy—going "oaking" was a great way to see the state). Generally I would map out a route based on a specific destination, like a member of the Live Oak Society or an area known to have a lot of live oaks. We would drive along, my eyes glued to the landscape, keeping track of mileage so I could plot exact locations of live oaks on topographic maps. Frequently we would stop, park the car, and get out to measure and photograph a tree or interview people. In this way we covered a wide range of distinctive regions, both culturally and physically.

In Guatemala the original idea was to look within the Mayan region of Middle America, including both highlands (in Guatemala) and lowlands (Yucatan, Mexico). Backback stuffed with topographic maps, rolls of film, notebooks, measuring tape, knife and plastic bags for samples of leaves and flowers, I arrived in Antigua, Guatemala to brush up on Spanish and use the library at CIRMA for a week before heading out to ceiba country. Within two days my approach had changed. The ceibas were coming after me, it seemed. My Spanish teacher, Juana, became instantly interested in the study and took me to visit ceibas right in Antigua, which I had believed to be above its natural range. Over the next month she came with me to look at a number of ceibas, taught me how to ask my questions in Spanish and introduced me to other knowledgeable people. Every day conversations with Guatemalans and foreigners yielded new information and insights. After consultation with Alfonso Arrivillaga, a Guatemalan anthropologist, I altered my travel plans to include trips to the Pacific lowlands and the Petén. A brief time in Yucatan convinced me that while the ceiba is clearly an important tree to the Mayan people there, the cultural differences were too great to try to include that in this study.

Except for two day excursions in cars, once to visit the tree at Palin with a friend and his daughters and another to explore the area around Esquipulas for ceibas with a helpful priest from the Basilica, my travel in Guatemala was by bus. Although limited in not being able to stop wherever I wanted, it put me in constant contact with...
Guatemalans, most of whom were delighted to tell me what they knew about ceibas, amused and pleased that this foreigner was so fascinated by their national tree. In Louisiana, I always traveled by car, which gave much more flexibility and allowed me to travel to otherwise inaccessible areas (Figures 2.2 and 2.3 indicate travel routes, places visited and other locations noted in text).

In my field notebooks I tried my best to follow Dr. Robert West's advice: "You never know what's going to be important, so write down everything." Whether crowded in the middle of a Guatemalan bus without a seat, or driving along the back roads of Louisiana, I tried. One's eyes learn to pick out the trees in question, to see not just the large ones, but the seedlings and young trees that most people do not recognize as live oaks or ceibas. Sometimes I simply counted the number of ceibas along a stretch of road, or tried to determine the percentage of homes with live oaks. Although I do not have a statistical summary of this for the whole of either study area, the exercises helped to point out relationships I would otherwise have missed.

One of the best ways to find people to interview was to begin measuring a tree's circumference. Almost inevitably someone would stop and ask how big it was, or want to know why I was measuring it, and we'd be started in a discussion of ceibas or live oaks. Children often appeared to help, especially in Guatemala where the trees in question are most often in the public plaza, but older residents would be delighted to help me measure and offer information. Using a tape measure, I measured the trees' circumference at 1.35 meters (4.5 feet) above ground. This often proved difficult because of buttressed roots and lobed trunks, and also poison ivy and other obstructions. The goal of measuring was to have some basis for comparison, and a possible estimate of age. But, as I learned, neither tree provides good growth rings, and both grow at variable rates, so this is an inexact science at best. The measurements thus proved to be more a tool for ethnographic interactions than systematic analysis of tree ages. Sizes of
Figure 2.2. Guatemala research sites and roads traveled.
Figure 2.3. Louisiana research sites and roads traveled.
some trees are given in the text, but I have not attempted to present a comprehensive list.

Determining species was mostly straightforward with live oaks, there being only one species in most of the study area, but with ceibas it proved impossible to always be confident on identification. The species is highly variable to start with, and without flowers and sometimes even leaves, deciding between the two species present in Guatemala was not always possible. Guatemalans, too, are often not sure and will call similar species ceibas. My solution was to accept as ceiba what was offered, but to note my reservations whenever I had doubts.

Often it is difficult to take in all of details of a scene while there. Photographs are a good short-hand. I photographed many, if not most, of the trees visited, using color slide film. The intent was to show their relationship with other landscape features, to record variations in branching patterns and pruning styles, and to be able to compare live oaks and ceibas in their respective landscapes. Planning those photographs led me to look more closely, not just at the trees, but at how people relate to them. This proved to be one of the most valuable tools for analysis.

Ethnography is a science most familiar to anthropologists, defined by one as "the work of describing culture" (Spradley 1980:3), with the goal of grasping the point of view of people within that culture. It is conducted by observing, listening, analyzing, and recording. "Rather than studying people, ethnography means learning from people" says Spradley (1980:3), who goes on to say that ethnographers deal with three major topics: what people do (behavior), what they know (knowledge) and what they use (artifacts).

In applying ethnography to the relationship of people with trees, I tried to learn as much as possible about these three areas. During field work I always noted down who was doing what around the trees, and whether this was everyday behavior or associated with special events. I also noted time of day, time of year, and details about the people observed. In interviews I asked about the trees to find out what Spradley calls the
explicit level of knowledge. To learn about the other, tacit level, was more of a challenge, and I believe there is much more to be learned about this taken-for-granted level of interaction with trees. Finally, trees like the ceiba and live oak are often altered significantly in the cultural landscape, and their very presence is often the result of human actions, so they are in one sense cultural artifacts. How people shaped them thus was another kind of information gathered, along with any special tools and techniques specific to this work. Other items noted about the trees were how they related to buildings and other structures and whether they had benches, planters or other objects around them. If there were signs, I recorded what they said, and looked for any dates or names that might track the tree's history or role in the landscape.

Ethnographic methods have been used not just to learn about people and culture, but also about place and meaning in the landscape. Rapoport (1990:11) suggests that to understand how people react to their environment, the non-verbal communication approaches used in ethnology are the least used and the "simplest, most direct and most immediate" and lend themselves to easy interpretation and comparison with other studies. Following his suggestions, I watched and recorded everyday interactions with the trees, and supplemented that with images of the trees in landscape and in everyday cultural contexts. Art and photo galleries, post cards, tourist promotion, movies, and educational materials are all rich sources for such information.

Doing ethnography in each place was quite different. In Louisiana, though in some senses an outsider (I am a Yankee, easily identified by accent and Vermont license plate), at least I spoke the same basic language as the people from whom I learned. Living there for several years while conducting research made it possible to go back to places at different times of day and year. I could stop and speak to many people and though at times wondered about the safety of knocking on strangers' doors felt relatively at ease. In Guatemala, the experience was far more varied and at times difficult. But even with the limitations of using a second language, the topic of ceibas almost always led to
great conversations. The topic of trees is not threatening, and even more than that, seems to be reassuring. People do not often get to talk about trees, and many have something to say. In both study areas I was often invited to visit people in their homes and given ideas for more trees to visit and other people to speak interview. The exception to this was in Palin, where the Poqomam-speaking townswomen clearly did not want to speak at great length to a *gringa*, especially one carrying a camera and not much interested in buying produce.

I developed a distinct persona in each study area. In Louisiana, I was the oak lady, especially after an article on my work appeared in the local newspaper, and I found myself using that as introduction more than once when meeting new people and explaining my research. In Guatemala, the father in my host family dubbed me a "*ceibólogo*" one day. At my school I was known as Santa Catarina Palopó la Ceiba or as *La señora ceiba*. Perhaps this is what allowed me to behave in ways normally considered intrusive, like barging into people's yards or approaching strangers to ask why they were in a particular place. Often I spent hours at a location, observing people, engaging them in conversation, trying to learn about the rhythms and cycles of the place. Some of my best examples I found on the way to somewhere else, like the Gossip Tree in Golden Meadow, and often it was analyzing my own responses to trees that helped me understand how others were reacting.

Interviews varied in format. For structured, formal ones with experts of some sort, I prepared questions and sat with my notebook, writing out their responses. Many exchanges were much more casual, occurring on buses, sidewalks or restaurants, or on the telephone. Finding people to talk to was relatively easy, since each one tended to refer me to many more. Experts in the United States included arborists, urban foresters, landscape architects, horticultural and nursery specialists and naturalists. In Guatemala I had formal interviews with two anthropologists, an ethnobotanist, a nursery owner and a naturalist. Whatever the situation, I had my field notebook along in which to jot notes.
Later, at home, I would type up the notes, preparing expanded accounts of the interviews, including any notes on interruptions, topics they did not want to discuss, things they offered, contradictions to previous information, and suggestions for other people to contact. I would end with questions, new ideas, or confirmation of earlier conclusions.

**ANALYSIS**

Analyzing ethnographic interviews and observations is different from the task of calculating means and standard deviations, but it has its own methods of arriving at conclusions and assuring validity. My goal was to allow the people and trees to speak, to interpret what their actions, words, presence in the landscape and appearance revealed about human-nature relationships. To do that required sorting, categorizing, checking and rechecking the information gathered in the field. Spradley (1980) outlined several techniques for this kind of analysis. They seem tedious at first, but in making lists of activities that go on under trees, grouping them into categories of kinds of activities and then considering how these kinds of activities relate to other parts of the landscape, I was able to learn a bit more about the role of ceibas and live oaks in people's lives.

Gathering information proceeded on many fronts at once, and as is usual in this kind of interdisciplinary approach, each phase meant looking at earlier work anew and revising or going back to look afresh. Analysis therefore came in stages, each representing a new level of understanding. My committee was understandably concerned at the beginning of this study that it could go on forever. They warned me that at some point I would have to stop and write up what I had learned. They were right: the topic of people's relationship with trees in the landscape is almost inexhaustible and could be analyzed indefinitely. Nevertheless, I have come to a stage where there are clear themes; further details keep adding to these themes, so I present this as my best interpretation of what I have learned and will welcome further studies.
Clearly, many of the people I spoke with were not experts on trees, so the factual information they gave me about the trees was not necessarily correct in the scientific sense. I followed the accepted route of recording their comments, checking with as many other people as was possible, and cross-checking with other sources like historical records or published information in professional journals. Often, though, what people believed was interesting in itself and the object of my research as well (like perceived age of trees, for example).

After my first field trip to Guatemala, while preparing a presentation of my work at the annual meeting of the Association of American Geographers, I discovered the great value of the photographs. In sorting through hundreds of slides of both species, I found some distinct similarities and differences in where they were placed in each landscape. Without the images in front of me it would have been impossible to discover some of these patterns. The photos also helped in identifying categories of places in which the trees play an important role. At times the photos are a frustration—it is impossible, for instance, to capture the feeling of the ceiba at Palin. Photographers with whom I spoke in Guatemala echoed the same sentiments. Without the ethnographic information supporting the photos one would miss quite a lot concerning the actual significance or experience of many trees to people of both regions. The photographs also played an essential role in the later stages of field work, when I began to present my observations to the people of Louisiana. They would inevitably evoke comments and trigger memories of other trees.

Another level of analysis came unexpectedly when I began to make drawings of some of these slides by projecting them on a wall and tracing over them with a pencil. In these simplified images physical relationships, both between trees and their surroundings and between trees and people, became more obvious. A fascinating result of this was that I began to see the relationships of people and trees in the landscapes much more starkly.
I spent a considerable amount of time rereading my field notes, looking at maps, plotting out where I had seen which kinds of trees and places. It was during one of these sessions that I suddenly realized the power individuals have in creating landscapes by planting trees, so this became a theme that I elaborated by going back through the notes again. Another time, looking at photos and recalling people's memories about trees, I was struck by the importance of childhood experiences with trees in forming attitudes. I remembered the young Guatemalan girl sitting in the front seat of her father's car as we drove to Palín, reciting something mysterious about a connection between ceibas and electricity she had learned about in school. It was my first week in Guatemala, my Spanish was still resurfacing, and I only vaguely understood that she was being taught about environmental issues in school through the example of the national tree, which we were going to see. At the time it was an interesting item in my notes, but later, given a sudden glimpse of patterns hidden in the landscape and in individual stories, I was led to re-examine the evidence, read more, and thus develop an important theme.

**Reflections on Fieldwork**

When I began to present my research to others, I found a whole new level of information coming my way. An article in the Baton Rouge newspaper about my work "Down to Earth Oaks: Tales of Grandeur and Goofiness" (Cullen 1995). The writer captured the human angle, and invited people to write to me if they had oak stories to tell. In the letters I received, people thanked me for speaking of their trees, invited me to visit them, told of being oak-deprived in northern Louisiana, and recounted a story of a young girl who wrote notes to a tree named "Okie." A man called to tell me about how he had planted an alle of full-sized trees at enormous expense, which he was sure I could appreciate.

Giving slide shows on the research to Louisianans has been revealing, too. First year students in introductory geography and anthropology courses at LSU, swarmed around me after classes, wanting to know why their live oaks were not in the slide show.
or thanking me for showing their trees and telling me about other trees to visit. At a talk in Hammond for a live oak day, local residents again thanked me for speaking of their trees.

Every week someone left me an article or note about a tree, live oak or not, in my box at school. It seems this topic touches something deep. It is partly the fact of being something people can understand, but there is something else. Even at professional meetings the response and rapt attention have been striking. My photos almost always include people now, though often people have offered to get out of the way so that they do not ruin the shot. I have to explain again and again that they are exactly what I need to complete the photograph.

The second trip to Guatemala was essential for understanding some of the basic processes going on between people and ceiba trees. I revisited several places and found some dramatic changes—one tree gone all together, two others pruned drastically, the center cut out—and discovered more ceibas in an area where I had been earlier, one no more than a short walk from where I had been living. It emphasized the different levels of awareness of ceibas among Guatemalans, and also how my state of mind and level of enthusiasm affected the material gathered. There, too, people were grateful for my interest in the ceiba. Teachers at the language school thanked me for reporting on my work (presented in hesitant Spanish), saying they had not known about its uses or history.

Much of ethnographic work depends on the people we generally call "informants." I was fortunate in having met Juana during the first few days of the initial fieldwork period—she proved to be a continued source of help. During my second visit, she reported on ceibas she had seen in other parts of Guatemala and led me to several others in Antigua. The work affected her and her community, too—she is now trying to plant a ceiba in front of her brother's home in San Juan del Obispo.
The most engaging and interesting part of this work was talking with individuals I have named tree people. They began to surface soon after I started research, although I did not recognize their significance immediately. Only after at least a year of research, when I was going over notes of early interviews, and trying to come to grips with what I believed to be the major influences on live oak presence in Louisiana, did I recognize what a disproportionately large role individuals play in the evolution of the landscape of trees. Paul Orr, Louisiana's urban forester, has been climbing into oak canopies and checking on the trees' condition all over the state for years; he probably knows the network of live oak lovers in the state better than anyone. At the beginning of this project he talked about the trees for almost three hours, able to name towns with large trees, recount stories of specific ones that had recovered from hurricane or other damage, and describe in detail the life in the canopy of such trees. Dr. Jim Foret, and his son, also Jim Foret, are well known as live oak men, as is the man in charge of the day-to-day care of LSU's live oaks, Randy Harris. All speak with great affection about the trees. They have examined hundreds, even thousands, over the years, and know them intimately. They have developed special techniques for minimizing damage to trees during construction and for helping trees recover from damage. Live oaks are not considered a significant species nationally, since they grow in a relatively small region. Research on the trees is therefore limited; little is published about their care and preservation. These tree people are the best sources of information on live oaks and their care.
CHAPTER 3: NATURAL HISTORY

Understanding how ceibas and live oaks go about their lives is crucial to this study, like knowing the personalities of characters in a novel. Often it is difficult to distinguish between the "natural" (this chapter) and "cultural" (next chapter) history of ceibas and live oaks. Thousands of years of interaction with people have altered how and where the trees reproduce, disperse and grow and how they relate to other species. Nevertheless, certain basic characteristics and patterns remain constant for each species. Part one concerns the ceiba, part two the live oak. A final section discusses similarities and differences in their life stories, and how these are important to the subject of the next chapter—cultural history.

CEIBA, CEIBA PENTANDRA

A full-grown Ceiba pentandra is hard to miss: wrinkled gray elephant-skin bark, irregularly armed with thorns, covers a thick trunk 10.7 meters (35 feet) or more in circumference. Enormous buttressed roots splay out in all directions, merging into the trunk a good three meters (10 feet) above the ground (Fig. 3.1). High above, fat branches angle skyward in contorted patterns, or form a series of horizontal whorls of three, regularly spaced along a trunk that can be 61 meters (200 feet) tall (Baker 1965:195) (Fig. 3.2). Some individuals have only a small tuft of greenery crowning a bare columnar trunk; others are more squat, giving considerable shade. The tree's fruits are pods that open to spill out great masses of fibers, known as kapok or silk-cotton, useful for stuffing mattresses, pillows and life jackets.

Fat, swollen trunks are typical of many members of the Bombacaceae, the tropical family to which ceiba belongs. Among the 31 genera and about 225 species of this family is the baobab, a giant of the African dry regions that measures up to 148 feet in girth. It provides shade, water, edible leaves, medicine and fruits, and is strongly associated with human settlements in the dry regions of west Africa (Harlan, de Wet, and Stemler 1976:11). Other family members are the durian of Asia, which bears a fruit
Figure 3.1. Mature ceiba tree in Petén rainforest, showing buttressed roots.
Figure 3.2. Crown of ceiba in Petén rainforest, branches covered with epiphytes.
known for its horrible odor and superb flavor; balsa wood and the red silk cotton tree of India, which bears spectacular red flowers long used in sacred rituals (Hutchinson 1967: 522).

The taxonomy of this family is a challenge. Strong physical similarities among different species and even genera, especially among immature trees, irregular flowering and a high degree of variability have led to many incorrect identifications and frequent revisions by taxonomist. On the whole, this is a poorly understood group. The distribution of certain family members can be equally puzzling. Some species, because of their importance to humans, have been so widely dispersed by humans that it is difficult to determine their natural range. Others, like the baobab, which is found in Africa, Madagascar and northwestern Australia, have been used to support the concept of continental drift (Hutchinson 1967).

*Ceiba pentandra* is a good example of the family's taxonomic and geographic ambiguities. It grows spontaneously in the tropics of America, Africa and Asia, a highly unusual situation, about which geographers and botanists long speculated (Fig. 3.3). Members of the same genus in both hemispheres are common, but generally they are represented by separate species that have differentiated since the land masses separated.

Herbert Baker, a botanist who spent years studying ceibas, disagreed with the notion that *Ceiba pentandra* was native to Asia (Zand, 1941:7; Neal, 1948:500; Bor 1953:163). Nor did he believe it confirmed pre-Columbian contacts between Africa and Asia. He concluded that while a ceiba pod could have floated across the Atlantic from the Americas and become established on its own in Africa, the patterns of diversity and disease resistance indicated it was native to both America and Africa. He further suggested that a cultivated form of the ceiba, selected in Africa, was introduced to Southeast Asia for kapok production, and was probably in Java as early as the 10th century (Baker, 1968:193). No new revision of the genus has been published since then,
Figure 3.3. World distribution of *Ceiba pentandra.*
and it seems generally accepted that *C. pentandra* is native to the American tropics and western Africa.

**Taxonomy**

At least two species of the genus Ceiba grow in Guatemala: *C. pentandra* (L.) Gaertn. and *C. aesculifolia* (H.B.K.) Britt. & Baker. Standley and Steyermark (1949:391) described *C. pentandra* as:

A giant tree, often 50 meters (164 feet) tall or larger, the trunk frequently 2 meters (6.5 feet) or more in diameter, supported by large buttresses extending widely from the base of the trunk, the crown usually broad and spreading, depressed, the bark light brown or gray, sometimes whitish, more or less densely covered with short sharp hard prickles but otherwise smooth or nearly so; young branchlets thick, unarmed; leaflets 5-7, oblanceolate to oblong or obovate-oblong, 8-20 cm (3-3.5 inches) long, acute or acuminate, acute or subobtuse at the base, petiolate, rather thick and firm, entire, glabrous or nearly so; petals white or pink, 3-3.5 cm (1-1.4 inches) long; calyx campanulate, 1 cm (.4 inch) long or slightly larger, glabrous or nearly so, very shallowly lobate; petals densely silky-hairy outside; fruit coriaceous, elliptic-oblong, 10-12 cm (3.0-4.7 inches) long, the large brown seeds imbedded in the silky "cotton."

Figure 3.4 shows examples of the leaves, flowers and pod of ceiba. Because of the long-standing difficulty of exact identification and its great variability, *Ceiba pentandra* (L.) Gaertn. has also been called *Bombax pentandra*, *Eriodendron afractuosum*, and various other names. The word ceiba, used as both scientific and common name today, is believed to come from an Arawak word for canoe used by the indigenous people of the Caribbean islands (Howe 1906:226). The Spanish adopted that name for the tree and brought it to the mainland, where many places throughout the region still bear that name.

The most reliable distinction between *C. pentandra* and *C. aesculifolia*, which can grow in the same areas and are often indiscriminately referred to as ceiba (as are members of some other similar-looking genera) is in the flowers. Those of *aesculifolia* are much larger, 10-16 cm (3.9-4.7 inches) long. Unfortunately, flowers are seldom present. Those who work the land and come in contact with the two regularly can
Figure 3.4. Leaves and fruit of *Ceiba pentandra*. 

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
distinguish them on vegetative characteristics like shape and size, and color of the bark. Some describe *C. aesculifolia* as much more prickly. According to Standley and Steyermark (1949), it has more conic prickles, and young branches are covered with them, while *pentandra* has short prickles and smooth young branches. This characteristic is highly variable too, however. Even flower color appears to vary: although most species descriptions in Central America say those of *C. pentandra* are white or pink, some describe them as yellow (Sanches Findaz 1983:76; Pennington and Sarukhan 1960:290).

Growth form also varies. In his study of African ceibas, Baker (1968) determined there were three distinctively shaped varieties of *Ceiba pentandra*: a tall upright form he called the American Spiny because it was like those of the American tropics. The second form in West Africa is typical of the savannas. It is much shorter, only to about 15.25 meters (50 feet) tall, has no buttresses, thicker bark, and no spines. The branches ascend instead of branching at right angles, and the main trunk often forks. The third type he believes to be a naturally-occurring hybrid between the first two that was selected by people because it had several advantages: trees are moderate in height, have easily climbable branches, no spines, and produce annual fruits that remain on the tree when ripe, making harvest easy. Baker notes this form only occurs where it has been planted, so he calls it the "African cultivated form." It is propagated by cuttings only and commonly grows at entrances to villages, along roads, in groves and in plantations. This African cultivated form is also the ceiba of Southeast Asian kapok plantations.

No similar study has been conducted for American ceibas, but earlier references describe a distinctive strain of ceiba called *C. caribaea* (DC.) A. Chev. or *C. pentandra* var. *caribaea* (DC.) Bakh., typical of the Caribbean islands, with a shortened trunk and many buttresses. Both this form and the tall kind were found on the islands, while only the tall form occurred on the mainland (Howe, 1906). Possibly the growing conditions on the Islands, with frequent hurricanes and strong winds, affects the shape of trees.
dramatically. But it is also possible that several distinct varieties exist. A thorough taxonomic study of the group is long overdue.

In the brief time in which study was conducted, it was not possible to make positive identification in all cases. Trees pointed out to me as ceibas sometimes were, other times clearly were not. But because this study is largely a cultural one concerned with perception, the incorrect identifications and ambiguities are interesting. Occasionally I found the name ceiba used to refer to any unusually large tree. One smaller tree referred to confidently as the national tree was clearly *C. aesculifolia* from the description of its flowers, while another was a red-flowered *Bombax* from South America. The truly large, mature, buttressed trees most common in village plazas are easy to identify.

**Distribution and Ecology**

Within the American tropics, *Ceiba pentandra* is one of the most widespread and familiar tree species. Ceibas were among the first trees noted by the Spanish explorers in 1494 on the island of Española, where they noted trees bearing "wool" (Howe, 1906). Today they are still common throughout the Caribbean islands and in the tropical forests of Mexico and Central America. They are cultivated as far north as the deserts of Hermosillo, as well as in Florida and California. In South America ceibas are found in tropical lowland forests all the way to the southern Amazon basin (Esteva 1969:111; Little, Wadsworth, and Marrero 1967:490; Pulle 1906:290; Renner, Balslev, and Holm-Nielsen 1990).

*Ceiba pentandra* is native to moist or dry plains and hills throughout Central America below 1000 meters (3281 feet), which roughly delimits the *tierra caliente* or warm tropical zone (Fig. 3.5); *C. aesculifolia* reaches up to 1500 meters (4921 feet) (Standley 1949). These boundaries are approximate; microclimates vary, so that individual trees have probably long managed to survive a bit higher. One limit for reproduction of *C. pentandra* may be the minimum temperature during pollination.
Figure 3.5. Natural distribution of ceiba in Guatemala.
Baker (1965) noted that finit would not set if temperatures fell below 20°C (68 °F) at this crucial time. Once planted by people, though, the trees need not reproduce to persist, so in cultivated settings they can live well beyond the elevation range indicated.

Like the other countries of Middle America, Guatemala contains an amazing variety of habitats tucked in among tall mountains, lush valleys and extensive coastal and inland plains. Ceibas play different roles throughout these different habitats. In the northern lowlands of the Petén, ceiba is a regular component of the native tropical rainforests that cover this large area of rolling low hills, mostly less than 600 meters (1968 feet) above sea level. At about Flores, the northern seasonal dry forest becomes the hot and humid southern evergreen forest, with little seasonal variation in temperature (Lundell 1937). Ceiba is an emergent, one of the species that grows tall and straight to reach above the forest canopy. These tall trees are often home to many other species of plants: bromeliads, ferns and vines crowd the branches. One tree near Tikal is festooned with hanging oropendula nests while many provide nesting sites for raptors. Here as in other tropical forests of the region, ceibas tend to be widely scattered, solitary giants (Murawski and Hamrick, 1992:403). *C. pentandra* is a gap species, one that comes in wherever there is an opening within the forest or along edges like streams, where lights plentiful. Once established, the trees grow rapidly and persist.

Directly to the south of the Petén rises the Alta Verapaz mountain range, a region of cool moist forests, home of the resplendent quetzal and the orchid called Monja Blanca, both national symbols of Guatemala along with the ceiba. Ceibas are present, but not a dominant feature in these forests.

The Motagua River flows through a dry, hot interior valley, a pocket of true desert and savanna that pushes into the center of the country, almost reaching the capital. Ceibas (and the other member of the genus *C. aesculifolia*) grow in this region, along the river and the dusty highway, and sometimes in fields. Toward the east the valley gradually becomes more humid; the Mayan ruins at Quirigua sport several large ceibas.
amid the tropical rainforest vegetation typical of this area. This rainforest extends inland to the north around Lake Izabal, and ceibas are a prominent tree there. One traveler in the 1800s noted giant ceibas along the Rio Polochic, bordering both sides as the river ascended into the Alta Verapaz (Sapper 1897).

South of the Motagua valley lies the Oriente, a region of low mountains and hills, seasonally dry. Standley and Steyermark (1949) noted that both species of ceiba (C. pentandra and C. aesculifolia) grow here. Much of this area has been cleared, grazed and planted, so little of the original vegetation is intact. On a trip through the region I noticed many stocky ceiba-like trees growing in pastures and along the road, probably C. aesculifolia. A large ceiba in the center of Quetzaltepeque that served as the local bus stop was C. pentandra. Exploring the area around the town of Esquipulas, I found several trees within the town that had been planted (by a resident’s grandfather), but on the outskirts of town, heading toward Honduras, were several examples of young trees in pastures and disturbed areas near the road that were clearly spontaneous. Just over the Honduran border to the south lies Copán, where the well-known Mayan ruins have been invaded by enormous ceibas that grow atop some of the pyramids.

The central highlands of Guatemala, the most densely populated part of the country, lie above the ceiba’s natural range. At elevations of a mile or more, the natural vegetation is a mosaic of pine and oak forest and grassy savannas. The central highlands are bordered on the south by a chain of volcanic peaks that reach up to 4267 meters (14,000 feet), forming a northwest-southeast line parallel to the coast, the beginning of Central America’s volcanic spine. Descending rapidly to the Pacific coast is the area known as La Costa, its upper reaches once covered with lush evergreen rainforest, the lower forest and grass-covered plains stretching to the Pacific Ocean. This region, too has long been altered by humans, who have replaced the natural vegetation with a succession of crops including cacao, coffee, sugar and cotton.
My observations during several trips through the gradient to the coast tend to confirm Standley's idea that ceibas do not grow on their own much above about 1000 meters (3281 feet), or perhaps slightly higher. Just below Palin, elevation 1135 meters (3,724 feet), the road dips into ceiba country. Above this, the only ceibas I noted were in cultivation, the one exception being a large tree by the road between Palin and Amatitlán. Below Palin ceibas begin to show up in pastures. Two other transects along roadways down that gradient, the first from Antigua to El Rodeo, the second from Lake Atitlán to Cocaes Junction, suggest the limit is between 1000 and 1200 meters (3281 and 3937 feet).

Along the coastal highway between Escuintla and Cocaes many large old ceibas stand out in pastures, in sugar cane fields and along the road. Older residents of that area said there were once many more ceibas there that measured up to 4 meters (13 feet) in diameter, part of the vast forests that covered the coastal plains before the road was put through (Edgar Geovany Mendoza, personal communication, July 11, 1994). Conversations with Guatemalans who live or travel in that region confirmed that large ceibas are characteristic of the Pacific coastal area; some forest with many large ceibas are said to still exist along the southeast coast from San Jose to El Salvador. To the north, in Retalhuleu and Pajapita, large old ceibas thrive, both spontaneous and planted.

Crucial here is the role that ceiba plays within these ecological systems. Ceibas are opportunists. Although they can be part of mature forests, they come in during early stages, when things are not settled. They are described as a late secondary species, gap species and colonizers of disturbed habitat (Baker 1965; Budowski 1965; Pennington and Sarukhan 1960). They indicate a location that was open at the time they began growth. In the wild, these habitats are common on the edges of streams and other bodies of water, where ceibas are often found in greater numbers. Since the coming of people, this is almost everywhere humans live.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Life Cycle

Ceibas start out life as small, round, oily, protein-rich, brown seeds, packed in masses of silky fibers in a durable pod. When the pods ripen they split, and the fibers, measuring up to 3 cm (1.2 inches) long, expand into fluffy white or tan clouds that carry the seeds on the wind. Some pods fall to the ground unopened, the seeds nestled safely inside, protected from excessive heat and water by the fibers. If they fall into a stream or other body of water, they can last for months, and when washed up on shore, open and release unharmed seeds. Baker (1965) was convinced this is one way ceiba could have arrived in Africa from South America. Trees can also start from cuttings (Proyecto Guauhtemala 1992). In Southeast Asia, where ceiba is grown in plantations for kapok production, this is an important form of propagation, and the only way to be sure of reproducing a particular strain. Cuttings of young shoots are planted right out in the field (Zand, 1941).

Seeds that find a suitable open, well-watered habitat grow rapidly. In the Pacific lowlands around Siquinala, where mature trees distribute abundant seed, the owner of a nursery explained that ceibas spring up all over the place during the rainy season (May-October) and grow to 2.5 meters (8 feet) or more by the following February. Ceibas tolerate a wide range of soils, from sandy to clay (Pennington and Sarukhan, 1960). Some young trees are covered with spines, giving them protection from grazing or rubbing animals. As the tree ages, spines on the trunk wear off, while newer branches may continue to sport protection. The trees have a regular, three-whorled branching pattern unless the growth point is damaged (Fig. 3.6). Buttresses begin to develop early, extending toward the prevailing wind. They act like cables, helping to anchor the tree (Record and Hess 1943:94). When full grown they can be enormous, and so regular in thickness that whole doors have been cut out of them.

By age three to four, the trees start to flower (Record and Hess 1943:94). Clusters of blooms appear while the trees are leafless. The timing and frequency varies
Figure 3.6. Twelve to fifteen year old ceiba, showing whorled branching pattern and scattered spines on trunk (Ciudad Vieja).
considerably throughout the region, and the rest of the world. In Samoa, for instance, the
trees flower every year, while in the forests of Barro Colorado Island in Panama, 10
years can go by between flowering episodes. The cultivated ceibas of Africa also flower
every year (Baker 1965), which seems to confirm the notion that these are strains
selected from the wild for consistent kapok production. When the trees do flower, it may
be on just a few branches, as I observed in Palín in 1994.

In its flowering strategy, ceiba differs from other members of the family
Bombacaceae. Most open a few flowers at a time over a long period. Ceiba, by contrast,
flowers in one major burst when the tree is leafless, generally at the beginning of the
rainy season in May to June. They are borne on shoots on horizontal branches in ball-
shaped fascicles formed by shortened internodes. Most authorities describe the flowers
as pink or white; they are fleshy and thick, typical of blooms pollinated by bats. They
open about 6:30 in the evening, and by the next afternoon fall off (Toledo 1976). While
the trees are self-fertile, they do depend on pollinators to move the pollen from blossom
to blossom. The blossoms, because they produce abundant nectar and pollen, are an
important food source. In Mexico animals observed on ceiba blossoms included several
species of bats, seven species of hummingbirds, 26 other species of birds, bees, wasps,
small beetles, opossum, mustelids and squirrels (Toledo 1976). Bats are important
pollinators in all regions; in Samoa the flying fox is the only pollinator (Elmqvist,
1992:263). Even the spent blossoms are valued by wildlife—cattle eat them when they
fall to the ground.

Like flowering, fruit set seems to be more consistent in open settings than in the
forest. Ceibas in kapok plantations reliably yield 600 pods per year (Record and Hess
1943:94), and can produce up to 4000 fruits on a single tree (Baker, 1965:186). By
contrast, among ceiba trees in a rainforest that finally flowered after ten bloomless years
only 25% set viable seed. Drier regions may be more conducive to fruiting: early in the
dry season in the Motagua Valley of Guatemala, and in the Yucatan of Mexico, I saw
many leafless ceibas, their branches covered with dangling green pods, an image of fertility.

In favorable situations with plenty of water, light and warmth, ceibas continue to grow rapidly for years. The swollen trunk exhibited by some may be an adaptation for water storage (Hutchinson 1967). Like many tree species, ceibas have a central growth point, a dominant shoot that continues to grow upward while the branches grow horizontally. A ceiba whose central leader is damaged responds by sending out new growth below. Sometimes a new central leader emerges, but often growth is diverted in a more horizontal direction. They are resilient, adaptable trees, and highly variable in form. In Los Mixcos, a village in the hills above Guatemala City, are two ceibas, both planted during the 1800s in an open field in the middle of town. One tree has grown straight and tall, while the other, of equal girth, is much shorter and broad. It seems most likely that the growth point of the shorter one was damaged some time ago by lighting, wind, disease or human interference, but genetic variability could also play a part.

The wood of ceibas is so soft and coarse that it has little commercial value. It is pinkish-white to ashy-brown, and has no taste or odor. The heartwood blends into the sapwood. When first cut, it can be wet and heavy, but it dries to a weight of 27 pounds (12.3 kilograms) per cubic foot, and tends to discolor or rot. Locally, it has been used for canoes, and in 1939 logs were shipped from Guatemala to Germany for use in plywood, but for the most part it has few uses (Record and Hess 1943:94).

In spite of the belief that the trees are enormously old, like the Palin tree that is said to be 450 years old, most die after about 200-300 years. There is no reliable way to determine the age of a ceiba, other than by finding out when it was planted. Taking cores is not helpful: the wood is so open, and the growth so nearly continuous that there are no distinct rings to count. The great size of the trees is deceptive, since they grow so quickly, sometimes reaching 12 meters (40 feet) in three years (Baker 1965). One hundred years is probably sufficient time for a tree to become enormous. Several of the
Ceibas famous for their size and age in Guatemala in the 1960s have since died, including those at Amatitlán, Escuintla and Palencia. The largest tree measured during field work was that at Palín, which had a girth of 10 meters (33 feet). Although I was told there were larger trees than this on the coast, it is hard to know what to make of a colonial era report of a tree in Nicaragua said to measure 29.3 meters (96 feet) in circumference (Standley 1949:790).

During their long life, ceibas are host to many other species. Branches of large specimens are covered with epiphytes, which can include: bromeliads—Tillandsia and Aechmea; orchids—Cattleya skinneri, C. aurantiaca, Encyclia atropurpurea, Laelia rubescens, Epidendrum chacoense, E. standfordianum, Pnera striata, Meirascyllium trinasutum; and other species—Peperomia lenticularis, Philodendron radiatum, Symgonium podophyllum, Acanthocereus pentagonus, Ficus spp, ferns, mosses and lichens (Gonzalez Ayala 1992)

**Live Oak, Quercus Virginiana**

Live oaks, like ceibas, are hard to miss. Massive, gnarly trees, they are dark green islands of shade in the flat, hot Louisiana landscape (Fig. 3.7). Their dark, furrowed bark and low branches make them much more inviting to climb than the prickly ceibas. Although they can grow tall in the forest, their more familiar shape is that of an open-crowned, spreading giant, hung with Spanish moss.

*Quercus virginiana* belongs to the family Fagaceae, which has 8 genera (Hutchinson 1967:127) distributed throughout the world's temperate and tropical regions, except for Africa. It includes *Castanea*, the chestnuts of Europe, North America and Japan, and *Fagus*, the beeches. But the most important genus for humans is *Quercus*, dominant in the old forests of much of Europe, Asia and portions of North America. Members of this genus yield acorns for food, timbers for house and ship construction and cork (from the bark of *Q. suber*).
Figure 3.7. Mature, open-grown live oak.
The genus *Quercus* is a large one, with about 250 species in the northern hemisphere of the New World, and another 250 in the northern hemisphere of the Old World (Nixon 1984:109). It is a complex group; various attempts have been made to organize the diverse members. One familiar grouping is the white oaks versus the red oaks. Compared to red oaks, white oaks have more rounded rather than pointed leaves, and harder wood. Their acorns mature during the first year and contain fewer tannins, making them sweet to taste. Another recognized group is the "evergreen" oaks, among which is the live oak. *Quercus virginiana*, the Southern Live Oak, is called "live" because it remains green year-round. Common names like chêne vert (=green oak) recognize this habit. Other examples of oaks that stay green year-round occur in California, Spain and Asia. Technically, these oaks are not true evergreens, since they do shed the old leaves when the new leaves appear each year. Nor are they all closely related taxonomically. For instance, California's live oaks, among them coast live oak (*Q. agrifolia*) and interior live oak (*Q. wislizenii*) are a taxonomically separate group from that of the Southern live oak.

**Taxonomy**

The live oaks of Louisiana belong to a group within *Quercus* known as the series *Virantes*, which grow only in the southern United States, Mexico and Central America (with a small population in northwestern Cuba). The whole series *Virantes* belongs within the white oaks group, and conforms to most of the characteristics described above except for the leaves. Live oak leaves are small, unlobed and often leathery, very different from familiar oak leaves of the northern regions.

In his taxonomic revision of the Series Virentes, Nixon (1984) concluded there are six distinct species, ranging in size from the large Southern live oak (*Q. virginiana*) to the shrubby *Q. minima* that forms low thickets on sandy shores. Several of the smaller coastal species like *Q. minima* and *Q. geminata* have long been mistaken for stunted *Q. virginiana*, stressed by poor soils and lack of water. Although all three overlap in
portions of their ranges, the smaller species tend to be confined to the sandier soils. The scrubbier species have leaves that are much more cupped, with indented veins. Hybrids seldom occur.

Quercus virginiana Miller, which has also been known as Q. sempervirens, Q. virens and Q. phellos (see Nixon 1984 for a complete discussion), can be up to 36.6 meters (120 feet) tall, with a trunk diameter up to (3 meters (10 feet) or more. The crown of an open-grown tree is rounded or flat, with a spread up to 46 meters (150 feet) or more across. The leaves are oblong, with smooth margins or occasionally toothed, from 5-13 cm (2 to 5 inches) long and 1.3 - 6.4 cm (.5 to 2.5 inches) wide (Fig. 3.8). The top surface is light to dark green and glossy, while the underside is generally lighter and often pubescent. They stay on the tree through the winter, but when the new leaves begin to grow in spring they turn brown or yellow and fall. Flowers are imperfect, born on separate catkins; male flowers, 1-5 cm (.4 - 2 inches) long, shed copious amounts of pollen in spring. Acorns grow singly or in pairs. When ripe they measure 15-22 mm (.5 - .8 inch) long and 8-15mm (.3-.5 inch) wide, are dark brown to almost black, barrel shaped and pointed. About a third of their length is covered by the cap.

The distinction between Q. virginiana and the Texas live oak, (Q. fusiformis according to Nixon), is still controversial; many continue to refer to the Texas live oaks as Q. virginiana or Q. virginiana var. fusiformis. Texas live oak does have some distinctly different habits: it tends to grow in clumps, actually clones with multiple trunks; the bark is grayer and the trees are smaller. Nixon (1984) believes it to be a separate species, with a natural range west of the Brazos River. In a roughly triangular area of Texas and Louisiana, though, the two overlap and he has documented a hybrid, Q. fusiformis x Q. virginiana with a range from Southeastern Texas near Columbus, west to the Edwards Plateau near Austin, and south to Corpus Christi (Nixon 1984:355).

Another interesting note is the small pocket of Q. oleoides in Cuba. On earlier maps of Q. virginiana distribution, this showed up as an odd disjunction in its range.
Figure 3.8. Leaves and acorns of live oak.
Nixon identifies this population as *Q. oleoides* var. *sagraeana* and suspects it may have been dispersed from the mainland to Cuba by passenger pigeons (an unlikely event according to Schorger (1973).

Herbarium specimens of live oak at Louisiana State University show the tremendous variation in leaf shape, thickness and size. Given that, it is not surprising that there have been several distinct species and varieties described at various times in Louisiana. (Among them are *Q. eximea* and *Q. andromeda*, probably forms of *Q. virginiana*.) Present in the state definitely are *Q. virginiana* and *Q. minima*, also called dwarf live oak. The latter is native to pine flatwoods and deeper sands behind beaches; less than six feet tall, it is associated with burned woodlands (Odenwald and Turner 1987:481). Texas live oak, *Q. fusiformis*, has been brought into Louisiana; several people described bringing trees from Texas to plant by their homes, or along roads. Several examples of a hybrid between *Q. virginiana* and *Q. lyrata*, known as Compton's Oak, grow on the campus of the University of Texas at Austin and one at Louisiana State University.

For the purposes of this study, I have accepted Nixon's description and range of the species *Q. virginiana*, and have assumed that large live oaks in Louisiana are members of this species. There may be some distinct varieties of this species. Several sources have noted variation in the sweetness or size of acorns. "Certain individual trees yield acorns much sweeter and more edible than others, and it is said that the Indians produced an oil somewhat comparable to olive oil from them" (Harlow and Harrar 1969:337). Some live oaks on Pecan Island in Louisiana are said to be have larger, sweeter acorns (Malcolm Tucker, personal communication, January 13, 1995). Growth form is another distinguishing characteristic. Jim Foret, a life-long forester in Lafayette, has been spotting trees with a more upright growth form for propagating as street trees. In southwestern Louisiana two folk categories are the English and Spanish live oaks, the latter being a more upright stocky form than the open and graceful English oaks. And
finally, some landscape architects believe the degree to which the trees retain their leaves in winter is genetically determined, so that some strains are more suitable for a landscape setting (Neil Odenwald, personal communication, September 2, 1993).

**Distribution and Ecology**

The live oak's native range extends in a band along the Gulf Coast from the Louisiana-Texas border in the west through the Florida peninsula and up the Atlantic Coastal plain as far north as Virginia (Fig. 3.9). Near its western limit around the Brazos River, groves of large specimens with crown diameters of 46 meters (150 feet) were common until the area was extensively logged beginning in the early 1800s (Nixon 1984:295). The northernmost stand of native oaks reported is at Fort Monroe military base in Virginia (Stephens 1935).

Live oaks are dominant forest species in only a limited area, mainly in what is called the "Temperate Broad-leaved Evergreen Forest," which exists as scattered stands in Florida north of the tropical zone, west along the Gulf Coast south of latitude 30, and north along the Atlantic Coastal plain. Greller (1990), who describes this forest as a distinct "life zone," even though it covers a relatively small area, notes that live oak and sabal palmetto are the most consistent dominants. The northern limit of this association is defined by the average minimum temperatures during the coldest month of 5.5° C (42° F).

More recent studies of the vegetation in the southeastern states suggest that the notion of stable climax communities is not applicable to the Gulf Coast region, where forests are subject to a "complex disturbance regime involving frequent disruptions of variable intensity " (Platt and Schwartz 1990:226). High winds from hurricanes, fires, droughts, floods and incursions of seawater create unstable situations that have helped create a complex mosaic of shifting associations of tropical and temperate, evergreen and deciduous species (Platt and Schwartz 1990). Plants that survive to maturity under these conditions must be highly adaptable and persistent. Live oak is such a species. It
Figure 3.9. Natural distribution of *Quercus virginiana* in North America.
tolerates a range of sandy, clay and alluvial soils and even puts up having its roots
covered with salt water at high tide (Britton, 1908; Van Dersal, 1938). Resistance to
damage from salt spray gives it an advantage in coastal forests and on outer banks
(Harlow and Harrar 1969). It is a fast grower and has a low center of gravity and strong,
pliable branches that resist hurricane damage. As a result it manages to grow to maturity
and dominate in certain situations.

When the first Spanish settlers arrived in Florida in the sixteenth century they
noted great stands of live oaks; by the 1600s the English as far north as Virginia were
cutting trees on the coast for ship building, pleased they were so abundant (Wood
1981:9). In much of the region, though, habitats suitable for live oak and its frequent
tropical companion the sabal palm, are small areas of raised land within larger swampy
expanses. In Florida, these are known as hammocks, and within them, live oaks are often
dominants. In the distant past these plant communities were probably more widespread;
drying and cooling since the Cenozoic have created a fragmented distribution along
water courses, limited by fire and drought in one direction, seepage and flooding in the
other (Platt and Schwartz 1990: 213).

In Louisiana, further variations in local ecological zones have been created by the
Mississippi River as it has shaped and reshaped the landscape; some of the state has
conditions similar to those of coastal Florida, but inland some areas have their own
distinct characteristics. The distribution map indicates live oaks are native to a strip
inland from the coast (Fig. 3.10). But live oaks once inhabited only a limited area within
this region. Southern Louisiana has a number of environmentally distinct habitats,
including the chenier plain in the southern coastal marshes, the prairies of the southwest,
the extensive swamp lands of the Mississippi alluvial basin, dissected by many bayous
and their natural levees, and the pine flatlands north of Lake Pontchartrain. In each of
these, live oaks played a different ecological role.
Figure 3.10. Natural distribution of *Quercus virginiana* in Louisiana.
The chenier plain of Southwestern Louisiana is a large flat marshy region interrupted by old beach ridges of sand and shell, parallel to the coast. Chenier derives from the French name for oaks, *chêne*, and means place of oaks, because live oaks are characteristic of these ridges. (The term is also often applied to natural levee forests.) The smallest cheniers can be a foot or two high, visible as a single row of oaks, or they can be large areas several miles. Right on the coast, they are covered with forests dominated by live oak and sugarberry or hackberry, with mixtures of other trees and an understory that can include sabal palm and prickly pear. The cheniers are an important physical feature in the region: they protect inland marshes from saltwater incursions and they are crucial habitat for birds migrating across the Gulf. The oak-hackberry forests are their first resting place; in spring the trees are covered with exhausted warblers, vireos, flycatchers and other songbirds. Monarch butterflies mass in the oaks before heading south (Craig et al 1987: 88).

Live oaks nearest the coast are small, sculpted by the constant salt spray carried in from the Gulf. The forest is low and tangled, filled with mosquitoes and other insects appreciated by the birds (but not the bird-watchers). Farther inland, the live oaks become larger. On Grand Chenier are huge old trees, sometimes forming an open savanna with prickly pear and sabal palm. Within this region are several salt domes, known as islands because they rise above the marsh. Avery Island, Jefferson Island and Weeks Island are examples. Live oaks also inhabit these places. Both the cheniers and salt domes have been attractive to human settlers before and after European contact. To the east along the coast are occasional islands, like Grand Isle, where live oaks play a role in stabilizing the land and protecting it from the destructive force of hurricanes, although it is not clear if they are native there or were introduced by humans.

The broad floodplains associated with the major rivers in Louisiana (Mississippi, Red, Ouachita, Pearl, Tensas, Calcasieu, Sabine, and Atchafalaya) are covered in what is called "Bottomland Forest" (Craig et al 1987:60). It is anything but a uniform forest.
The relatively small differences in elevation created by abandoned river channels, natural levees, and meandering rivers and bayous throughout the valley exert a precise and easily noticeable influence on vegetation patterns. As the rivers flood, they deposit their coarse sediments first, creating a ridge of well-drained soil that grades slowly into the poorly-drained backswamp. Live oaks mark this upper section of the levee only, part of a linear forest type that includes other kinds of oaks, hackberry, elm, ash, dwarf palmetto and other characteristic species (Craig et al 1987:61). The banks of the Bayou Teche still have remnants of these oak associations. Although they would appear extensive to anyone traveling by water, in fact they do not represent much total area, since they are basically narrow ribbons of land within the vast swamp.

Another form of high ground within the swamps, also formed by river deposits, are slightly raised "islands" on which live oaks became established. An early reference to such an area is on a map of Louisiana prepared in 1764 by the French cartographer Bellin. South of New Orleans, in the Barataria region, he shows an extensive area of live oaks, labeled "Bois de Chênes Verts qu'on dit propres a la Construcccion" (Bellin 1764, in Condrey 1995). Cathcart and Landreth, sent to find live oak and other timber for the United States Navy in the early nineteenth century, found significant stands in the Atchafalaya Basin, east of the Teche. Not far from the town of Franklin, in "Grand Alias Chetimaches Lake," they discovered and named Cypress Island, about 299 hectares (739 acres) in area. They concluded that

upon an average this Island would produce at least four good Trees of Live Oak to an acre with fine large and valuable limbs for Ship building two of which Trees we measured and found them to be upwards of nine feet in diameter. Suppose there thousand good Live Oak Trees on this Island and each Tree containing three Tons of Timber which is considerably below the mark, here on this Island would be nine thousand Tons of Live Oak Timber (Newton, 1985:34).

The live oaks occupied only the driest portions of these islands. Landreth describes the topography of Cypress Island as "most beautifully diversified by ridges and valleys running in a north Westerly and South Easterly direction across this Island the
ridges about one hundred yards wide producing Live Oak...the valleys about twenty yards wide cypress of the largest class." (Newton 1985:34). The islands varied in the age and size of the oaks on them. Some had much younger trees, referred to as "Nursery to the young Timber" and Landreth suggested that improving drainage and preventing floods would allow the trees to mature much faster. In some parts of the area they found little or no live oak. All together, Cathcart and Landreth recommended 7692 hectares (19,000) acres on Commissioners, Cypress and six islands in Lake Chetimaches be reserved, giving the navy access to 37,000 live oaks. The wood was never harvested by the navy, because it was not needed—first Florida, containing large numbers of live oaks, was ceded to the United States in 1821 and later in the century metal ships replaced wooden ones (Wood 1981:48).

Landreth's descriptions confirm the constantly shifting nature of land in this region, and the importance of small differences in topography in determining species composition of the forest. The young "nurseries" of live oaks probably represented more recently formed islands still in the process of being built. Talking of the whole area west of the Mississippi that he and Cathcart explored, he wrote "the Lands are generally low and during great freshes are subject to inundation which kills a great deal of young live Oak and much impares that which is come to maturity" (Newton 1985:133). To prevent this he suggested "banking and ditching wherever necessary... for I am well satisfied from observation that were this precaution made use of that all the Islands and Margins of Bayous where ever the Land was firm and Solid in this country would be well Set with young Live Oak and that it is much owing to the inundations of the waters of this country that this valuable Tree is so scarce" (p 134). It would be impossible to see the operation of these natural cycles now. Water levels in the entire Atchafalaya Basin have been so altered by dams and other controls that entirely different patterns now operate.

To the west of this region is the prairie area, a series of open grasslands cut through with gallery forests that traced the courses of bayous. Widely spaced live oaks
sometimes form a sort of savanna look in small sections of this region, but native stands are otherwise limited to occasional individuals along bayou levees, small clumps on raised "islands" and pimple mounds in the western part of the area.

North of Lake Pontchartrain, in northeastern Louisiana, is an entirely different kind of forest. Dominated by live oaks, longleaf pine, slash pine, loblolly pine and southern magnolia, this association has also been called maritime forest and maritime mesophytic forest. Sandy, well-drained soils predominate, and fire and salt spray have had more influence on the vegetation than flooding. The high diversity of species found here and the forest's location has led some to conclude it is a transitional forest between maritime forests and others to the north (Craig et al 1987).

These forests have a very different character than those of southwestern Louisiana. They are drier, more open and light than those of the swamps, with more varied topography. Tall pines often tower over the live oaks, which become understory trees in spots; in other areas they grow upright, with long leafless limbs reaching for light. But some of the state's largest, most magnificent live oaks are here, too, including the Seven Sisters Oak that is the current president of the Live Oak Society. To the north this forest grades into pine forests; the southern border is Lake Pontchartrain, where some live oaks grow right on the lake's shore. Fontainbleau State Park has what may be a remnant of this forest type.

The picture that emerges from these various glimpses is that of a tree that is highly adaptable to a range of conditions, but also particular in some requirements. It needs light and open habitats to get started—hurricane-ravaged land, natural levees periodically inundated by flooding rivers, new islands of sand deposited by those same rivers downstream, edges of lakes, fire-openings in pinelands are some likely spots. Once established, it can persist through later floods, high winds, even salt water spray and occasional tidal inundations. It is limited by water levels: its roots cannot survive if waterlogged as can those of the bald cypress or black gum, so that it can grow only on
upper portions of the natural levees and the higher ground on islands. While it produces abundant acorns for dispersal, they are so popular as food, and so fussy about germination, that few may germinate each year.

Live oaks may have been widespread before the arrival of the Europeans but only in certain kinds of frequently changing habitats. Landreth points out they were relatively scarce in Louisiana, even in an area that had not yet been logged. In the rest of the United States in the early 1800s people feared that they would all be gone within 50-60 years unless something was done. Occasional live oaks have long been found north of the range map, and they may well have extended north along the river valleys; they grow on their own today as far north as the area around Melrose Plantation, south of Natchitoches.

Live oaks are important to wildlife both as habitat and food. Countless birds nest in live oaks, and their importance in the chenier habitat has already been noted. Squirrels are an almost constant presence in live oaks, living among the branches and busily planting acorns in the fall. Bears roamed live oak woods of the coastal plains, and big flocks of turkeys used to live in live oak forests (Silver 1990:31). Passenger pigeons ate enormous quantities of acorns which are still an important food for a wide range of birds including ducks, grouse, pheasant, pigeon, jays, grosbeaks, nuthatches, and woodpeckers. Other mammals that eat the acorns include beaver, fox, hare, muskrat, opossum, rabbit, raccoon, squirrel, chipmunks, mice (Martin, Zim, and Nelson 1951).

Life Cycle

For such a huge tree, the live oak produces surprisingly small slim, acorns, pointed, dark, weighing about 558 to the kilogram (390 to the pound). Although in good years they cover the ground below the parent trees in a solid mass, few seem to sprout. That is in part because wild creatures from turkeys to bears like to eat them, and because weevils bore their way in as soon as the acorns drop, devouring the rich food inside. As seeds, the acorns are finicky and cannot be stored for longer than a few weeks without
rotting. So eager are they to start growing that some fall off the tree with the radicle, the first root, already growing. The seeds need sandy, well-drained soil and plenty of rain to germinate.

Once established, the young trees grow quickly, and can easily be six feet tall in their third year. From the beginning they display their genetic variability. As Joey Billeaud, who grows thousands of live oaks each year at Live Oak Gardens, put it, "You're not going to find two live oaks that look very much alike" (Billeaud, personal communication, September 21, 1994). They vary in leaf shape, size and thickness, in branching pattern, in how many of their leaves shed in the winter months and in color. Light intensity helps determine their form as they grow, but there is some genetic difference too—some tend to grow upward more than others.

In an open situation, the trees tend mostly to assume a fountain shape. Most tree species have a dominant central leader that grows upward, suppressing the growth of lower buds. Only if this leader is damaged do the side shoots get a chance to grow rapidly and overtake the leader in length. But the live oak has no such primary growth point. It is more likely to have three to five, or even fifty buds equally able to grow. Given full light, good soils and plenty of moisture, a live oak will grow vigorously in all directions, with limbs that eventually reach the ground and may even snake along the surface. Sometimes such spreading trees look like a group of seedlings that germinated at the same time, which can also happen. If one side is damaged by wind or salt spray, the trees can assume fantastic shapes as they continue to grow in whatever direction is favorable. Limbs damaged by lightning, high winds, or deliberate pruning by humans are generally replaced by vigorous new growth.

Sometimes the limbs reach lengths that defy laws of engineering. In his account of the live oak, Brackenridge (1980) wrote: "One of these branches which I measured some years ago, I found seventy-five feet in length, and the extremity was so low, that I could reach it from the ground. From this peculiar habit, it rarely attains its full size
anywhere except on the margins of rivers, on the shores of the bays and sounds, and on
the edges of the open ponds, seldom extending any distance back, which I consider
entirely owing to the being crowded by other trees, and consequently to the want of
proper space." In shaded situations, the pattern changes. Trees growing close together
will take an upright shape, or will angle toward the light. Tall, gangly trees with bare
branches bearing tufts of leaves at the ends result. Lower branches where light does not
reach tend to drop off, a form of self-pruning.

The wood of live oaks is the hardest and densest of all oaks. Its fibers are twisted
and irregular, which makes it even more difficult to cut, requiring special equipment and
frequent sharpening of saws. The twisted grain and lack of well defined growth rings
make it impossible to accurately determine the age of trees, and getting an adequate core
is a hopeless task. But the live oak's growth form, tough wood and ability to regrow
after damage all contribute to its survival in the hurricane zone of Gulf Coast. Its center
of gravity is low, offering least resistance to the wind, and the twisted wood fibers bend
and give during storms, preventing breakage so common among trees with more brittle
wood. Their recovery from wind damage is remarkable too. Four oaks in Morgan City
completely stripped of leaves and small twigs by Hurricane Andrew in 1992 had leafed
out again two weeks later and made a complete recovery the following year (Paul Orr,
personal communication, September 29, 1993).

Despite the difficulty, determining the age of oaks is somewhat of an obsession
with some people, and their research has led to a better understanding of their life span.
Dr. Stephens, founder of the Live Oak Society in 1935 (see Chapter 4), devised a
method for estimating age based on circumference of the trunk. After measuring many
oaks for many years, and comparing them to a tree with a known planting date, he
concluded that in 100 years a live oak would be 5.2 meters (17 feet) in circumference,
and after that it would increase at a rate of 1.3 cm (.5 inch) per year (Stephens 1931).
Measurements taken over the last ten years by another oak lover in New Iberia suggest

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
that the rate of growth is much more variable; he has found some relatively aged trees increasing at more than an inch a year while others hardly grow at all for years (Glenn Conrad, personal communication, March 31, 1995). A stand of live oaks in St. Francisville, at Ambrosia Plantation, has not grown noticeably since photographed in 1930. Others grow rapidly; one is documented to have reached a diameter of 1.4 meters (4.5 feet) in less than 70 years (Harlow and Harrar, 1969: 337). Brackenridge (1828) noted that the large live oaks that had colonized the ruins of old forts and villages in the Tallahassee region of Florida after 1706, had attained their full size in fifty or sixty years.

Climate and soil both exert a strong influence on growth rates and final size. The temperatures within the live oak's range go from 43.3° to -17.8°C (110° to 0° F); rainfall varies from .64 meter (25 inches) at its western limit in Texas to 1.65 meters (65 inches) on eastern Gulf Coast (Fowells 1965). While the trees can grow in all these places, their rate of growth and eventual size vary. At their northern and western limits, they never reach the sizes attained in southern Louisiana. A thirty year old tree planted in Tuscaloosa as a memorial was only about 3.7 meters (12 feet) tall in 1994. While trees can survive frosts, hard freezes can cause splitting of the bark and even the trunk, which then leads to disease and decay. Cold is thus a limiting factor inland, while rainfall is a constraint in the west (Nixon 1984).

Although people like to believe live oaks are 500 years old or more, most of the large ones are more likely 200-300 years old (Harlow and Harrar, 1969). Because they persist for so long, providing plentiful and convenient surfaces, live oaks are host to a wide range of epiphytes. Most cause no harm, merely using the branches as support, obtaining nutrients from the air and captured detritus. Spanish moss (Tillandsia usneoides) is the best known of these. A member of the Bromeliad family of flowering plants, Spanish moss used to be plentiful on live oaks and other trees of southern Louisiana. Birds spread seeds and portions of the plants from tree to tree. A related
Tillandsia, ball moss, has become a problem. Unlike Spanish moss, this plant forms dense clumps that surround twigs and branches and block the light.

Resurrection fern (Polypodium polypodioides) cascades down the main trunk and branches, where water runs down after rains. Lush green fronds turn into inconspicuous brown curls between rains, only to turn green again within hours of the next rainfall. More elusive and hard to find are Green Fly Orchids (Epidendrum conopseum). Many trees also sport various lichens and mosses. Some are benign, others indicate slow growth, which may signal decay.

Live oak canopies are similar to tropical rainforest canopies in that they are whole complex ecosystems that include members of the bromeliad and orchid families, ferns and a host of other insects, birds and mammals. Paul Orr, state urban forester for Louisiana, who has spent a lot of time climbing around in live oaks, has found earthworms in the canopy, thriving in decaying leaves and other organic matter that has gathered among the great limbs. There often is enough of this material to allow other plant seeds to germinate; I have seen magnolias growing in live oaks.

Live oak roots, thick and gnarled, are often prominent above ground. Underground, they can extend underground two and a half times as far as the canopy, much farther than the commonly believed limit at the canopy edge. Feeder roots are shallow, confined to the top 25 cm (10 inches) of soil. But sometimes the trees have anchor roots, a completely different kind of root, thick, solid, like a wedge going straight down to help hold the top firm (Jim Foret, personal communication, March 31, 1995). Some trees seem to be up on a mound. While some believe this to be the result of soil around them compacting and eroding, leaving the roots exposed, it seems to be a growth form that is genetically determined. When a tree is cut or girdled or even suffers some other serious damage, sprouts grow from the root crown and surface roots. Trees under stress can often be observed with a veritable thicket of young shoots under them. If the main trunk of an older tree is entirely removed, it sometimes sends up a new main shoot.
that will grow rapidly, fed by the established root system; killing a live oak is sometimes
difficult for this reason (Harlow and Harrar 1969; Fowells 1965: 585).

Many trees, as they age, become hollow. Sometimes limbs rot and suddenly fall
for no apparent reason. Live oaks, like other trees, can live for many years without any
heartwood, since the transfer of water and nutrients happens in the outer layer of wood,
which is renewed each year. The many angles and crooks of oaks to tend to catch
detritus, though, which can be a damp area ideal for invasion of decaying organisms. But
even if half a tree falls, the other half often lives. As they age, some trees develop great
burls, either an indication of great age or the result of a virus.

Remarkably few pests or diseases bother live oaks. Oak wilt (*Ceratocystis
fagacearum*) is a major problem among live oaks in Texas, where it spreads rapidly
through the root systems of clonal *Q. fusiformis* (Appel 1986). It has not yet had a major
effect on Louisiana's live oaks. But the recent discovery of extensive damage from
Formosan termites in the oaks of New Orleans live oaks has urban foresters and citizens
worried. This Asian species has been in the area for at least 50 years but damage to trees
was first noticed after Hurricane Andrew swept through, and more than half the downed
live oaks were found to be infested. The future of live oaks in the city is uncertain since
no known legal pesticide is known to be effective (Bragg 1996).

**COMPARISONS**

Both ceibas and live oaks belong to genera that are highly significant to people
over much of the world, *Ceiba* in tropical regions, *Quercus* in the temperate and
subtropical regions. Each is the largest or among the largest trees in its region. Some
trees might grow taller than a live oak, but no species rivals it in sheer volume, size of
trunk and area shaded. The huge old cypresses of the swamps of Louisiana once might
have outdone a live oak but they are long gone. Ceiba, being emergents in the tropical
rainforests, are clearly among the tallest, while those in plazas are the widest trees
known. So while many species of trees are relatively non-descript, easy to forget or
confuse with similar species, these two stand out. Both of these trees also often inhabit
the same places people favor. In Louisiana, live oaks are almost ecological markers for
suitable living places in the swampy lowlands, indicating where there is high ground.
Ceibas are often associated with rivers and with water sources in dry climate regions.

Several characteristics of these two species predispose them for life with people.
In fact, both might be considered weeds. Both produce abundant seed, and can do so
even if only one tree is present in an area. Ceibas can reproduce from parts of the parent
plant; live oak resprouts from roots. Both are pioneer species. They are able to invade
disturbed habitat, and in fact require open areas to germinate and become established.
Since creating disturbance is one of humankind's most popular activities everywhere,
people have inadvertently often benefited both ceibas and live oaks, increasing the areas
in which they can successfully compete with other species. Both species also tolerate a
wide range of soil and moisture conditions, enabling them to spread into a wide range of
ecological environments along with people.

Sheer persistence and adaptability are other qualities shared by ceibas and live
oaks. Both grow quickly and can persist for hundreds of years. Ceibas' huge buttresses
and live oaks' tough wood protect them from high winds and even hurricanes and make
cutting them difficult. Since neither is valued for its timber today, it is often easier to let
them be and plan around them than cut them down. Both trees respond to physical
damage by regrowing vigorously. That means they can be shaped by people pruning
them, and can survive the almost inevitable damage that results to plants living in the
midst of people. The live oak's growth form and wood characteristics and the ceiba's
buttresses protect both from destruction by hurricanes or high winds.

Because of their long life and huge size, both trees become entire ecosystems,
homes for other species of plants and animals. The vast area of their shade creates a
distinctive microclimate, important in the hot climates to which both are native. Their
extensive branches and roots provide locations for nests, burrows and perches. Live oaks
yield abundant acorns that feed a wide range of birds and mammals, while ceibas flowers
are an important source of pollen and nectar. Epiphytes of the families Bromeliaceae and
Orchidaceae along with ferns are common and numerous on both. The presence of a
single tree in the forest or in the midst of human settlement therefore has a large effect
on the ecology of the area.

Both trees are easy to transplant when young, and grow quickly into mature
specimens that look old. Within a human generation, they can be old enough to begin
collecting legends of enormous age. Neither tree provides an easy way to determine its
true age, thus defying scientific measurement.

A major difference is the quality of their wood; ceiba wood is so light and porous
that it is considered useful only for things like plywood; live oak is so hard and difficult
to work that getting rid of old trees is a major problem. Another difference is their shape
when growing in the wild. Live oaks, given adequate room and light, have a drooping,
sprawling form. Ceibas shoot for the sky, with a long straight bole. Yet both are
remarkably adaptable to less than ideal conditions, and recover from damage rapidly. In
their native forest habitats both species are relatively scarce in numbers. But the live oak
often grows in groves, dominating certain kinds of forest communities, while ceibas are
almost always solitary and far from one another. Their natural ranges do not overlap, but
humans have put them together in a few places.
CHAPTER 4: CULTURAL HISTORY

In today’s landscapes of Guatemala and Louisiana, ceibas and live oaks play a highly visible and symbolic role. While humans destroyed some of their original habitats, they also created new ones, and these two species have adapted, finding niches where they persist. In the process, they have worked their way deep into the cultural imagery and become an integral part of the existing cultural landscape. Today’s ceiba at Palín matters to the people who live and work in its shade, and is part of both community and national identity. Oak Alley is not only a symbol of ante-bellum life in the American South but a tourist attraction that brings millions of dollars of income to Louisiana each year. Yet these images are only part of the story.

How did these two species come to be so important? Are there parallels between their histories, or in the roles they play in the cultural landscape? When I began my research with my own twentieth century images of each tree—in plazas and plantations—I was soon overwhelmed by the many trees and places that did not fit these categories. But as I continued to observe them in different settings, and began to note their different life stages, patterns emerged that illustrate the dynamic quality of landscapes and the importance of how nature and culture work together to create our taken-for-granted worlds. One of the differences between trees and built structures in the landscape is that trees keep growing as they age. Big old trees that survive today started life many years ago, sometimes centuries ago. Young ones hint at the future. In the process of maturing, a generation of trees will be in contact with many generations of humans, and often a range of cultural groups with very different attitudes toward those trees.

While each tree represents one taxonomic species in the scientific view, to people who live with them they are a highly varied group, with distinct configurations, expressed in where they grow, their form, size and pattern of planting. The discussion that follows considers the development of the most important images of each tree. It is not exhaustive, nor do I want to imply that they are entirely distinct. My goal is to show
how rich and varied, how culturally deep the role of these trees is in the landscape, and how it is always changing. The following chapter will discuss in more detail the day-to-day interactions people have with the trees.

**CEIBA**

Ask a Guatemalan about ceiba trees and you are liable to hear three things: *es el árbol nacional* (it's the National Tree), *fue al árbol sagrado de los Mayas* (it was the sacred tree of the Maya), and *¿has visto la ceiba de Palin?* (have you seen the ceiba at Palin? Contained within these statements is much of the history of the ceiba's relationship with humans as both a symbolic tree and an important part of everyday life. Their role within today's cultural landscape is an outgrowth of both pre-Conquest patterns and beliefs and the vast changes imposed by the conquerors.

One mark of the ceiba's importance to people is that it is planted beyond its native range. Figure 4.1 shows the cultural distribution of the ceiba compared to its natural distribution. As described earlier, the species had a natural range up to 1000 meters (3281 feet), but people have planted it at higher elevations. The dots indicate ceibas in cultural contexts I visited or have reliable information about. Many are between 1000 and 1500 meters (4921 feet), but some are closer to 2000 meters (6562 feet), so the area between 1000 and 2000 meters (3281 and 6562 feet) is proposed as its cultural distribution, the area in which the trees exist because people have planted them there.

**Sacred Tree of the Maya**

At the entrance to Tikal is a tall, forest-grown ceiba, with a sign that announces it is the sacred tree of the Maya, who believed it was the tree of life, and that because of this only priests and nobles were allowed to wear clothing made from the fibers of its fruits. It also notes that the branches of this tree were believed to hold up the sky and that after death, Mayans would rest forever in the shade of a ceiba. How did this sacred status affect interactions with trees in the landscape? Were or are all ceibas sacred or just certain individuals?
Figure 4.1. Cultural distribution of ceiba in Guatemala.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
The term Maya is a broad one, covering a time span from at least 2000 B.C. to the present and a geographical area from the Yucatan peninsula in the north through the highlands of southern Mexico, Guatemala and El Salvador, the Pacific Coastal Plain and south into Honduras (Sharer 1994:19). During the pre-Conquest history of Middle America, the Maya not only developed several phases of sophisticated urban ceremonial centers in different parts of this region, but controlled much of the trade between areas to the north and south. The main information available about the ceiba as sacred tree comes from the Classic period in the northern lowlands, between 300-900 A.D., by which time it was already highly developed as a symbol of the world tree.

To the first people in the tropical rainforests of Middle America, trees were crucial, the source of food, medicine, dyes and paper, and shade for living spaces. Ceibas furnished a number of useful products: their wood, being so soft, was excellent for canoes; the young pods were edible; the silk floss of the mature fruit made an excellent stuffing material and was reportedly spun into a cloth in some regions; the seeds when boiled yield an oil useful in cooking or lighting (Standley and Steyermark 1949). The fibers and the tree are commonly known as kapok in the regions where it is grown as a commercial crop, including Southeast Asia, India, and parts of Africa and South America (Zand 1941). Different parts of the tree have been used as medicine: leaves to treat swellings, burns and rashes; roots as a diuretic; the bark for ulcerations, hemorrhoids and gonorrhea, to start menstrual flow and expel placentas. An extract of the bark has been shown to act on the central nervous system in a manner similar to that of curare. Drinking the sap of the tree is supposed to help a person gain weight (and if it goes too far, one cuts the tree down to reverse the effect) (Gonzalez Ayala 1992). Among the Huastec in Veracruz, the bark is still used for treating measles (Alcorn 1984:375).

But even more important than all of these, by the time of the Classic Maya period, the ceiba was deeply entrenched in Mayan symbolism as the embodiment of the world tree (Guest 1995). The Mayan name for *Ceiba pentandra* is *yaaxche*. Translated it
becomes $yax= The, the first, the blue-green; and $che= tree. In Mayan plant classification $yax$, or blue green, is the most important, the first color; its association with ceiba is an indication of its central role as a symbolic tree. The world of the Maya was divided into three parts: heaven, the middle world, and the underworld, known as Xibalba. All three worlds were sacred; Xibalba, unlike the Christian underworld, was another place of power that could be entered by kings and shamans while in ecstatic trances.

Running through this center, the Maya envisioned an axis called $Wacah Chan$ ("six sky" or "raised up sky"). The tree which symbolized this axis coexisted in all three vertical domains. Its trunk went through the Middleworld; its roots plunged to the nadir in the watery Underworld region of the Otherworld, and its branches soared to the zenith in the highest layer of the heavenly region of the Otherworld" (Schele and Freidel 1990: 66-7).

The tree had a feminine, maternal side, too. Young children who died were cared for by a ceiba, which is sometimes shown to give milk from its breast-like fruits (Carrasco 1990). A darker side of the tree was the X-tabai, a beautiful woman all dressed in white who lurked among the roots, tempting men to their death if they wandered nearby at night (Aguilera 1985; Vega 1938:381). That story persists in the Yucatan, but is not familiar to Guatemalans in the highlands. As symbol of abundance it was also connected to $Imix$, the name of the first day of the Mayan calendar and sometimes combined with Cipactli, the comparable term among Nahuatl groups (Barrera Vazquez 1976).

Ceibas were portrayed symbolically in several ways; one was on the carved stones known as stelae. Schele and Freidel (1990) refer to them as tree-stones (Fig. 4.2). When they erected monuments and stela, the Maya were recreating the essential components of their sacred geography—mountains, forest and cave. This last was the temple itself, at the summit of the pyramid. It was surrounded by four deep holes into which the builders inserted four tree trunks that represented the four sacred trees of the cardinal directions (Schele and Freidel 1990:109, 114). The king, as chief priest, became the world tree when he conducted blood letting ceremonies necessary to sustain life.
Figure 4.2. Tree-stone, representing the ceiba as the World Tree (Copan ruins).
On public monuments, the oldest and most frequent manner in which the king was displayed was in the guise of the World Tree. Its trunk and branches were depicted on the apron covering his loins, and the Doubled-headed Serpent Bar that entwined in its branches was held in his arms. The Principal Bird Deity ... at its summit was rendered as his headdress (Schele and Freidel 1990:85).

The close connection between people and the tree is demonstrated in this image, as well as the power inherent in natural objects that people can access. But only the king or other powerful shaman was able to accomplish this. Ceibas were places of power and were associated with those who had both political and religious authority. Other examples of the human-tree connection are several groups that claim direct descent from the ceiba, including the Lacandones and the Tzeltales (Barrera Vazquez 1976:197). The ceiba as world tree was sometimes shown as a cross, an image that had important consequences when the Spanish arrived with the Christian cross. The similarities in symbolism often helped in the conversion of Mayan people, since raising the cross was similar to setting up a symbolic ceiba, and in part of the region, a cross painted green is still worshipped (Villagutierre Soto-Mayor 1983).

The Mayans were not alone in using the ceiba as a symbol. The Aztecs called the ceiba pochotl. The Florentine Codex, has the following entry:

Silk Cotton Tree (Ceiba pentandra; pochotl)
It is smooth, smooth in all parts; dense; quite circular, well rounded, quite rounded; shady, shadowy. It shades; it gives shade, it gives shadow; it shades one. Under it, one is shaded. Hence, for this reason, it is called 'the governor'; for he becomes [as] a silk cotton tree, a cypress (Sahagun 1963:108).

Again there is the association with power, and it is clear from the description that the tree was valued not for any product but for its shade. The word pochotl has a distinct resemblance to the word pochteca, referring to the class of professional traders within Aztec society who traveled throughout the region. It suggests a possible connection between travel routes and ceibas (Davidson, personal communication), and in fact ceibas often do mark river crossings, travel routes, road intersections and market places. A
retelling of an old Guatemalan story gives a different origin, linking it with a god, Pochuta, whose name comes from the word "fat" referring to his corpulent stature. This friendly god, actually a demi-god, led the people away from the dangers of a world destroyed by the gods of hurricanes and earthquakes and himself stood guard over them. He became the pochuta tree that still guards communities throughout the area (Castenada 1962:40). Another derivation of pochotl or puchotl is that it means protector (Arriola 1973:79).

The term pochote is sometimes used today to refer to the closely related species, Ceiba aesculifolia. In Yucatecan Maya it is called pi'im. Archeological evidence indicates that this species was cultivated as a crop for fiber in the Yucatan region. It too had some ceremonial importance, as access to it was limited to those of the higher classes, who may have grown large amounts on land near the center of settlements (Folan, Kintz, and Fletcher 1983).

There is no direct evidence that ceibas were deliberately planted or managed, but the early Maya did influence the wild-growing ceibas of their homelands. During Classic Mayan times, settlement throughout the Petén lowlands was relatively dense, and few areas of the forests were unaffected by cultivation and other activities. The same was true of the Pacific lowlands at different times. The Maya provided plenty of open land for the trees to colonize, and gave them preferential treatment as a sacred tree, both of which must have increased opportunities for the ceiba. Frequently mentioned in both older and current accounts of the region is that people do not like to cut ceiba trees, and will leave them when clearing forests. Another role of the ceiba in dry regions, especially, was that its presence indicated water; associations between ceibas and water are still strong in the Yucatan and among the Huastec (Alcorn 1984:588).

At the time of the Conquest, 600 years after the Classic period, huge ceibas existed in Central America, far larger than the largest trees in plazas today. Oviedo y
Valdez, who traveled throughout the area in the 1520s said Nicaragua had the biggest ceibas.

I shall speak only of a ceyba which I saw many times, less than half a league from the residence of the Cacique of Guacama, which belongs to the grant of a man called Miguel Lucas, or his companions Francisco Nunez and Louis Farfan. This tree I measured with my own hands by a cabuya cord, and found its circumference at the base to be 33 varas, or 132 spans [88 feet]; and since it stood on the bank of a river it was not possible to measure the lowest portion of the roots; if properly measured, I judge its circumference would have been 36 varas or 144 spans [96 feet] (Standley 1923:790).

He goes on to explain that the tree

“is unimportant except for two things: One is its wool and the other its vast shade, for the branches are very wide-spreading, and the shade is wholesome, not oppressive like that of other trees of the Indies, which is notoriously harmful.....The Indians of Nicaragua have places set aside for the tianguez or market, and there they have two, three, or four of these ceyba trees for shade, which are sufficient to shelter one to two thousand people. ...In the province of Nicaragua this tree is called poxot, and in other places it has other names” (Standley 1923:790).

These ceibas were important places in the landscape. Markets, central for economic as well as social and religious activities of the whole region, were often held in the shade of ceibas. Settlements often clustered around the trees, too. A sketch of a traditional Mayan village from the nineteenth century entitled "Der Heilige Baum der Maya" (the sacred tree of the Maya) shows huts grouped around an open area centered on a large ceiba (Stoll 1886) (Fig. 4.3).

But did they deliberately plant trees in their villages? The Maya were accomplished agriculturists, so it was certainly within their abilities. Anthropologists have recorded ritual plantings of ceibas in Yucatan villages for certain festivals, although noting that this could derive from European as well as indigenous customs (Redfield 1936). Geovany Mendoza, a Guatemalan ethnobotanist, believes it highly unlikely they would have planted the trees in their villages. The sacred ceiba is one you find in the forest, he says, chosen because it is in a sacred location near water or a cave, or because
Figure 4.3. Traditional Maya village around ceiba tree, nineteenth century (adapted from Stoll 1886).

Figure 4.4. Ceiba in plaza of San Francisco Petén (planted circa 1828).
of its appearance (a swollen trunk for instance can suggest a pregnant woman). Within their native region, such trees were common enough in forests and clearings that planting them would make no sense (Geovany Mendoza, personal communication, July 11, 1994). Once an area had been cleared, though, ceibas would likely seed naturally near human habitations, and if protected, manage to grow to maturity. The rapid growth of the trees no doubt played a part in their role as symbol of abundance.

Shamans conducted their rituals by ceiba trees at the time of the Conquest, often using incense to prepare the trees for the ceremonies. These practices continued well into the Christian era and may still take place in some regions. Bishop Cortes y Larraz on his trip to visit priests in the province of Guatemala in 1769 was disturbed to learn the native people still practicing their old religion; he noted that when conducting healing rituals the curanderos took their patients to ceibas in the forest, where they lit candles and burned incense as they invoked the name of their heathen gods (Cortes y Larraz 1958). In his travels to the Pacific Coast in the late nineteenth century, Sapper (1897) noted that large ceibas still received gifts from local people. This practice may continue; several Guatemalan tour guides said that offerings are still brought to certain ceiba trees on the Pacific Coast and in the Peten, and the Lacandon are said to visit the trees at the ruins of Sayaxche. The time available for research did not permit a more thorough investigation of this, but it would be interesting to pursue. Such customs are far more likely to survive within the tree's native range than in the highlands, where they probably never were common.

Ceibas often grow next to Catholic churches today (Fig. 4.4). While this is frequently the result of their being in the plaza and thus automatically by the church, some have been planted deliberately by churches. The small church at the entrance to Palin features such a ceiba. Another is at the most sacred pilgrimage site in all of Latin America, the basilica of Esquipulas, home of the Black Christ (Fig. 4.5). The tree there was planted by an American, a member of the monastic community of Esquipulas who
Figure 4.5. Ceiba at Black Christ pilgrimage center, Esquipulas.
developed the gardens around the site. No doubt he felt it right the place should have a
ceiba, since the image of ceibas at sacred sites is so common in the country. Cemeteries,
too, can have their ceibas. How or when that custom started is not clear. I did not see
any examples of such cemeteries in Guatemala, but was told of one outside of Antigua.
Livingston, a community of Garifuna on the Caribbean coast, has a well-known and
much-photographed ceiba in its cemetery, with a large dangerous snake believed to be
living in its branches (Alfonso Arrivillaga, personal communication, January 26, 1994).
In the Yucatan region of Mexico and in Honduras, ceibas are often in cemeteries.

Plaza trees

The ceiba of Palin is today's best-known example of the plaza trees that have
been such important places in Guatemala. Stories and legends have evolved around these
trees that grow in the very center of the most important space of Spanish-American
communities—the plaza. Like the history of the plaza itself, the story of these trees shows
the blending of cultural patterns from pre-Conquest Native American customs through
those imposed by the Spanish to the ongoing changes of the twentieth century (Fig. 4.6).

The plaza today plays a central role in communities throughout Latin America. It
is the symbolic center of town, the place where important events happen, and where
people go to enact social, religious and political rituals (Gade 1976a; Richardson 1978).
It comes in a range of styles, from a large open space covered in grass and used as a
soccer field to smaller squares with formal plantings of clipped shrubs and roses,
fountains, benches and paved walks. Some are used as markets on certain days, others
strictly as a place for walking and viewing; they go through different stages as a
community grows (Elbow 1975). The Catholic church is generally on the east side,
municipal buildings on another, and home of the wealthier residents nearby. Many also
have playgrounds and basketball courts adjacent. Although it was long believed that the
plaza was a Spanish introduction, recent re-examination of the evidence suggests it is in
fact an adaptation of pre-existing patterns (Low 1993). In the important capitals of the
Figure 4.6. Ceiba in plaza of Santa Elena, Petén.
Mexican highlands, for example, grid-pattern settlement with a central plaza formed the blueprint for the Spanish town built on top. But smaller towns also tended to group homes around a central open area. An important central feature was often a ceiba.

When Cortez arrived in Tabasco, on the Rio de Grijalva in 1519, he defeated the natives, then "took possession of the country in the King's name by drawing his sword and making three cuts in a great ceiba tree which stood in the central plaza of the town." Later "a cross was made in a large ceiba tree on the spot where the battle was fought, in order to afford a long memorial thereof, for this tree has the quality of preserving scars on its bark" (Bernal Diaz del Castillo, *True History of the Conquest of Mexico*, quoted in Standley 1923:789). The Spanish quickly grasped the importance of the trees, as shown in the account quoted above. Other important events are said to have happened in the shade of certain ceibas. Pedro de Alvarado cried under the foliage of a ceiba after his defeat by the Pasacos, in the plaza of Masahuat in El Salvador, Cuauhtemoc (last Aztec emperor in 1522) and two faithful companions were hung in a ceiba after their defeat. A ceiba was chosen as the place to burn the sacred Mayan books in Mani, Yucatan (Polonsky Celcer 1962).

Today's image of the ceiba in the square, surrounded by pavement and grid-iron city streets, differs greatly from the earlier "plaza" that was basically open space left around a large tree. Today's ceibas have been carefully planted, and are often surrounded by elaborate structures. According to some sources, the Spaniards in the early years of the conquest looked for large trees when founding new settlements:

La ceiba aparece en nuestra historia como fundadora de pueblos, al conjuro de sus ramas se congregaba la gente y su extendida sombra abre el ambito de las plazas públicas; puede decirse que es el primer edificio, el centro de la población, y por esta circunstancia Carlos V dictó una disposicion para que se fundasen los pueblos en torno de una ceiba, sabedor de que congregaba a las gentes y amparaba tradicionalmente a los mercados (Polonsky Celcer 1962:36).

(The ceiba appears in our history as founder of towns; under the spell of its branches the people gathered and its extensive shade opens the limits of the
public plazas; one could say it is the first building, the center of the community, and for that reason, Carlos V dictated a decree that towns should be founded around a ceiba, knowing that it gathered people and traditionally protected the markets.

The towns they were founding were those intended for Indians. Throughout Central America, the goal was to gather people from their rural dispersed locations into centrally controlled towns; choosing locations near ceibas according to the traditional pattern would have been one way to give legitimacy to the new rulers. This would have been effective in the lowlands where such large trees existed. The practice of planting the ceibas deliberately may have been started by the Spaniards. As noted earlier, the Maya of Guatemala were certainly capable of doing that, but may have refrained because of the tree's sacred character, an object of power best respected. The Spaniards, of course, could not have had such reservations. Current writers certainly claim credit for planting the trees, and suggest it was done for noble reasons.

Los conquistadores españoles, queriendo conservar aquella hermosa tradición, aquel respeto por los símbolos de nuestros antepasados, representados en esta simbólica planta, la sembraron en todas la plazas cerca de los cabildos, en todos los sitios conquistados, junto al simbolo sacrosanto de la religion cristiana: la sagrada Cruz y el Templo santo (Polonsky Celcer 1962:33).

(The conquistadors, wanting to conserve that beautiful tradition, with respect for the symbols of our ancestors, represented in this symbolic plant, planted it in all the plazas near the town offices, in all the areas conquered, next to the sacrosanct symbol of the Christian religion, the sacred cross and the holy church.)

While this passage represents a modern view of what was going on hundreds of years ago, there is some evidence that by the eighteenth century, at least, the Spanish did plant ceibas in plazas of Indian towns. When the village of Jocotenango was relocated (forcefully) from the outskirts of Antigua to the new capital of Guatemala City in 1769, the Spanish-speaking rulers planted a ceiba in the new location. This tree later became the center of the annual Festival of Jocotenango that drew Indians from all over Guatemala each August. Until at least the late nineteenth century it was transformed each year into an altar, covered with offerings of fruits and vegetables remaining the
same while the surrounding town was transformed into a suburb of Guatemala (Batres Jauregui, 1916:376). It is this same tree that is featured as the most beautiful example of the national tree in the *Monografía Antológica del Arbol* published in 1962 (Polonsky Celcer, 1962).

How widespread this custom of planting ceibas in plazas became is not clear. The repeated comment that "every pueblo once had its ceiba" suggests they were planted all over the country, yet the fame of the few truly large ones suggests this may not have been universal. More likely it refers to some ideal of former times, or recalls the ancient custom of settling around a large tree in the lowlands. By the nineteenth century, the ceibas in plazas had become a familiar image, and were appreciated widely for their shade among Mayan and non-Mayan peoples. The famous ceiba in Amatitlán, a resort town outside of the capital, was planted in 1835 by the poet known as la Pepita and her mother; la Pepita later enjoyed its shade and dedicated some lines of poetry to it (Chinchilla Aguilar 1960).

Guatemala is unique in the region for having about 45% Mayan speakers in the population. Although in some communities people of Spanish and Mayan descent mix, in others they remain segregated. Cities and departmental capitals tend to be Spanish speaking. The more remote villages, especially in the central highlands, are primarily Mayan. Though many of the larger plazas were originally bare in the center, since the nineteenth century they have been landscaped with trees, fountains, walkways and benches. These plantings tend to be controlled and clipped, carefully distinguished from wild vegetation of the monte, the wild regions outside the civilized city. The remaining streets seldom have tree plantings so common in the United States, since the buildings mostly face inward, presenting long plain walls to the street.

In the 1960s the famous plaza trees of Guatemala included those of Palín, Amatitlán, Jocotenango, Palencia, San Francisco, La Democracia, Escuintla, Chiquimula. At least half of these have died. The tree at Palencia, famous because of the gruesome
story that the head of Serapio Cruz, a national hero, was hung in it after his execution in the late nineteenth century, has been gone for 20 to 30 years. The Escuintla ceiba was cut down on orders of the town alcalde or mayor, after it reportedly dropped a branch that killed a number of people. Both these trees were replaced by smaller plantings. Of the others mentioned above, only the trees at Palin, San Francisco and La Democracia are still thriving (I did not visit Chiquimula). The tree at Palin has replaced the tree at Jocotenango as the most admired example of the national symbol. There are other large trees, however, like the ceibas of Los Mixcos, that are not well-known. A thorough inventory of existing village trees would be an instructive project.

**National Symbol**

Being the national symbol has had a major influence on the ceiba's distribution and chances of long-range survival. It has brought the tree into the national consciousness in a new way, perpetuating old legends, gathering new ones, creating a sense of relationship with the species, influencing national identity and pride. It is also having an effect on plazas as people plant the trees in areas where they may not have grown before. There is a conscious attempt to educate the public about environmental issues, especially in the schools, and the ceiba often features in these programs. Choosing the ceiba, with its long association with the Maya, yet also a familiar sight in public plazas, was an attempt forge some sense of unity in a nation long divided along ethnic lines.

By the opening of the twentieth century, the ceiba was clearly an important and familiar tree in much of Guatemala. A campaign to have it made the national tree of Guatemala was started by Dr. Sixto Padilla, a botanist from El Salvador, calling it the most important member of the flora, the most beautiful, and most intimately tied to the history of the country and the largest of all the native trees (Polonsky Celcer 1962:31). It wasn't until March 8, 1955 that another ceiba lover, Ulises Rojas, succeeded in having it declared the national tree. That year the ceiba became the *árboz nacional* of Guatemala,
joining the quetzal as the national bird and the Monja Blanca, a rare orchid, as the flower (Polonsky Celcer 1962:33) (Fig. 4.7).

Shortly after that, came the publication of a collection of poetry and prose written about trees, and especially the ceiba, the *Monografía Antológica del Arbol* (1962). The trees are representatives of nature, it says in the introduction. Famous trees, the role of trees in human life, legends of specific trees and essays on how to plant and care for trees fill the volume, along with photos of some notable trees. The cover shows the ceiba in Jocotenango discussed above, a tall gangly tree that is far from the largest or most attractive ceiba, yet described as the ultimate example of the national tree. Plans to plant ceibas in all public plazas are discussed, along with the need to educate people about trees, starting with the ceiba.

There have been many ceibas planted in plazas since then, including those at Ciudad Vieja, Jocotenango, Santa Catarina la Barahona and Santa Elena. Often they have signs to announce who put them there. At Colonia Hunapu, a suburb of Antigua, the man who planted the tree noted in the inscription mounted on a cement fixture that he had done so for love of his country and his community. Even the Army is putting in ceibas—the base at Chimaltenango purchased two trees from a nursery in Siquinala several years ago. At schools, too, ceibas are being planted. Two trees put in six years ago at a school run by an evangelical group in San Antonio Aguas Calientes are growing rapidly (Fig. 4.8). A school for young girls in Antigua has a ceiba beginning to crowd the yard. This is not a new idea. A middle-aged woman of Antigua remembered clearly the big old ceiba at the school for girls she attended in the capital, and also recalled that there was a big one at another called Belén. Several other schools I saw in the city had a ceiba or two in front, as did some outside the capital.

The image of the ceiba, long imprinted on the smallest coin, the five centavo piece, is being brought more and more into the consciousness of Guatemalans. The long custom of not cutting ceibas has been made law; it is illegal to cut the trees and even
Figure 4.7. *Simbolos patrios* (national symbols) of Guatemala.
Figure 4.8. Ceiba tree in front of school, San Antonio Aguas Calientes.
removing dying trees requires a government permit. In a new series of books on the trees of Guatemala, published by a group of people dedicated to preserving the country's forests (Guatemala, they say, means place of forests) featured ceiba as the first entry (Proyecto Guauhuahemala 1992). People entering the country will soon be greeted by impressive ceibas; they have been planted near the Mexican border in the north and at the international airport in the capital, and two young ceibas were spotted in 1994 growing in the most formal and symbolic center of the country, the plaza of Guatemala City (William Davidson, personal communication) (Fig. 4.9).

Other Roles

Home and Community

Not many of the ceibas in my study areas were at private homes. They seem to be primarily a public tree, a community tree, especially outside of their native range. In the lowlands, they may be more common on private land—in glimpses from the bus I saw them in pasture areas both on the Pacific coast and in the Oriente. Because they seed so easily and abundantly in those regions, individual trees are likely to get started almost anywhere and may be allowed to persist unless they interfere with growing food. A Peace Corps worker who had been in the Polochic Valley working with Kekchi who where colonizing the lower slopes, reported that they regularly cut young ceibas that got started in their maize fields. In most of Guatemala, landholdings are small among the vast majority of citizens. Land is precious, in an area where the majority still relies on agriculture. Coastal lowlands are most often in vast plantations of sugar, cotton or banana. Midslopes are devoted to coffee and the higher regions to corn, vegetables and eventually sheep and grains. Average plots of land are small, often not enough to feed the families that depend on them. There is little of what would be called "landscaping" except on private estates of rich landowners and along some public areas of cities.

The few privately owned trees bear out this pattern. One in Antigua that Juana showed me is at the Hotel Santo Domingo, an elegant, expensive hotel in the grounds of
Figure 4.9. Young ceiba in plaza of Guatemala City (Photo by William Davidson).
a former monastery. It was planted by the previous owner, the American archeologist Ed Shook, who was one of the earlier interpreters of the Tikal site. He said he got the tree down on the coast, near Escuintla, and that he had planted it because he likes ceibas. It had surprised him by its rapid growth since he had planted it close to a wall. The tree, at age 20 years measured more than ten feet in circumference and has overtopped all other vegetation in height. On the highway just outside Amatitlán is a restaurant named Asiole, in front of which is a tree that in its leafless state looks like a young ceiba. The proud owner assured me it was *Ceiba pentandra*, the national tree, then explained it had been a gift to her husband from a friend in South America and that she wished I could see it when it is covered in big red flowers. Scientifically speaking it is almost certainly a member of the genus *Bombax*, but to her it is a ceiba. On my second visit the cement border had been painted yellow to set it off properly. In Esquipulas, the view from a lookout point above town revealed a large ceiba below and a search eventually led to the private property of a coffee finca owner, whose son told us that his grandfather's friend had planted the tree many years ago.

By contrast, in the small town of San Juan del Obispo, just above Antigua, a local resident planted a ceiba by the public pila, where women go to get water and wash clothing. Juana (my Spanish teacher, who lives in that town) had joked about planting a ceiba in her yard, but clearly that would not leave room for jocotes or other fruits, so that her efforts, too are focused in the public area of town, by the street that runs in front of her brother's house. The other ceiba in that town, probably *C. aesculifolia*, has been there for many years, right at the entrance to town, where people turn off the main road and also where they wait for the bus. Whoever planted it is supposed to have written his name on a piece of paper and buried it under the tree.

In the Motagua area and the Oriente, the species *C. aesculifolia* has some practical uses. Its prickliness makes it suitable for fence rows. Local names for the tree include *palo largato* and *ceibito* (a diminutive of ceiba), and it is said to look like a ceiba.
enferma, a sick ceiba, because it never gets as big as a ceiba (Edgar Geovany Mendoza, personal communication, July 11, 1994). In Los Mixcos, several residents explained that ceibitos or ceibillos were like ceibas only smaller and more thorny.

Juana reported on an unusual form of ceibas sold at a nursery show at the Hotel Santo Domingo one year—bonsai ceibas in pots. They sold for Q100, about $17. Whether they were in fact ceibas or not is hard to tell. Some of the philodendron family have leaves that could be considered similar to those of ceibas. If they are genuine ceibas, it would represent a remarkable case of transformation of the national symbol into a toy version of itself.

Roadside Trees and Travel Routes

Within its native range, ceibas are a frequent and conspicuous component of roadside vegetation. Their shade is welcome and often used for bus stops, check-points for police and eating establishments (Fig. 4.10). But their frequency is variable as is their distribution pattern. Some roads are notable for the high concentration of ceibas. Along a piece of the Pacific coastal road, between Escuintla and Cocales, I counted an average of one ceiba per kilometer either right by the road or in adjacent fields and pastures. On some stretches closer to the coast, they line the road. Trees right on the road are likely to be used as bus stops, police checkpoints or eating places. These trees are generally relatively tall, and often one sided if they are on the road. They are a handy place for painting political slogans or posting signs of all sorts. Many have painted trunks and mark intersections.

On the Motagua valley road, which goes through an extremely dry region, the trees were more clustered at the roadside, especially just outside of towns. They also tend to be on the outside curves of the highway, as if placed there deliberately, and at bridges (Davidson, personal communication). Ceibas occur naturally along rivers. Their tall straight trunks when felled also make perfect bridges, so they may have been encouraged in the past at crossing spots. Their presence in these places may indicate
Figure 4.10. Roadside ceiba with *comedor*, Amatitlán.
continuity with ancient customs of marking travel routes in Central America. In addition, they show that roadsides are an ideal habitat for this species adapted to disturbed habitats. Once established in an area, their abundant seed would readily colonize stretches of open soil. If left for a relatively short time, they would become sizable trees. As laws now protect them, even if people did not feel the usual reverence for the tree, they might hesitate to cut them. Near towns this would be especially true (Geovany Mendoza, personal communication, July 11, 1994).

Another example of continuity in the association of ceibas with travel is the large tree in downtown Guatemala, at the main bus terminal. Here people can rest in the shade, and the tree marks an important location for travellers, as it would have long before the city and accompanying streets were built.

Wild-growing Trees Today

Ceibas growing spontaneously are still plentiful in Guatemala. In fact, in the lowlands of the Pacific coast, they are so ubiquitous that people will seldom buy one at a nursery. Anyone from the highlands who wants to plant a ceiba, knows where to find them. In spite of the laws against cutting them, in that region they are sometimes used for flooring and other situations in which a soft wood is adequate. Yet several people expressed their concern over the future of the ceiba in Guatemala. The rainforests everywhere are under pressure for agricultural land. When the road was put through on the coast, many ceibas and other trees were cut, and new roads have led to further agricultural expansion, at the expense of forest trees. The Petén, the largest area of rainforest left, is seeing rapid development. Wild growing trees are an important aspect of the ceiba's image. The tall trees left in agricultural fields and those that have grown up on ruins as they have at Quiriguá and Copán, lend an air of mystery, and a connection to the past. Tour leaders to the lowlands often point them out and speak of the tree's sacredness and its connection to the Maya.
Several hundred thousand visitors come to Oak Alley, on the River Road outside of Vacherie, Louisiana, each year to photograph the double row of ancient live oaks leading to the Greek Revival mansion. Countless brochures and books about Louisiana repeat this image, giving the impression that the whole state is covered with such scenes. It isn't. But there are a lot of live oaks in the state. In the last 150 years, this native tree, once limited to restricted habitats along waterways, has spread throughout the state and has become the premier shade tree, celebrated in poetry, paintings and stories. Individual trees are valued at $30,000 or more, sometimes as much as a home on the property.

Unlike the ceiba, the live oak is not an officially declared symbol of a modern state, nor does it have the aura of a sacred tree of Native Americans. Rather, its many roles and meanings have evolved since European settlement. Tracing their evolution gives some insights into the way natural objects become cultural icons, and the importance of both natural and cultural factors on that process. Europeans arrived in Louisiana with their own cultural attitudes about oaks formed on the other side of the Atlantic. They quickly included the new oak in their concept of oak, and thus interacted with it in similar ways in the landscape. But the live oak's character is different from that of Old World Oaks, so the result has sometimes surprised everyone. It has led to a particular Louisiana landscape and relationship with this unique species. The association with plantations is so strong that other roles tend to be overlooked by outsiders. The real story is much richer, with many strands contributing to the overall importance of live oaks to people today.

One major effect of the trees' popularity in the last hundred years has been a dramatic increase in its distribution. Today, live oaks can be seen planted in front of homes through most of Louisiana and even north into Arkansas. Figure 4.11 shows some of the locations north of the species' natural range where I saw live oaks or have reliable reports, and a suggested cultural distribution in the Southeast. What the map does not
Figure 4.11. Cultural distribution of live oak.
show is how the trees have spread within their natural range into habitats formerly inaccessible. As people have drained wet areas and controlled flooding with ever-higher levees and have removed native forests from high ground, live oaks have moved into areas they could not have occupied earlier.

**Native Americans and Live Oaks**

At the time of European contact, Native Americans had been living in the forests of the Southeast for thousands of years, and had long played a decisive role in the populations of native plants (Silver 1990). The written evidence suggests that most of this interaction was driven by utilitarian concerns, although a few comments admit aesthetics may have played a role. Live oaks had plenty of practical uses throughout the region; their symbolic or sacred role seems to be minimal. Yet they were often indicators of livable places and an important source of shade.

The earliest settlements in Louisiana are associated with the oak-covered cheniers and salt domes called the "Five Islands" (Jefferson, Avery, Weeks, Cote Blanche and Belle Isle). These dry hills offered homes with easy access to marsh habitats filled with abundant wild game and other foods. Inland, the early settlers chose the natural levees along the plentiful waterways, as they did throughout the Southeast. By 5000 B.C. they had developed a hunting and gathering complex in the woodlands that covered much of the state (Hudson 1976; Kniffen, Gregory, and Stokes 1987). Although corn had been introduced to the region before the arrival of Europeans, and farming was common on the rich soils of the natural levees, most Native Americans relied on a combination of farming, hunting and gathering, following the seasonal harvests of both wild and cultivated plants. Even today, the sites of former settlements are extraordinarily rich in ethnobotanically important species (Dunn 1983:356). The forests were full of nut-bearing trees, among them hickory, pecan and live oak.

Acorns are a highly nutritious food, containing large amounts of protein, carbohydrates and fat (Smith 1987). Before the introduction of corn, acorns of the many
species of native oaks were probably a staple in the American Southeast. Along the Gulf and Atlantic coast, live oak acorns were preferred for some uses because they are sweet, and thus do not require leaching to remove bitter tannins. John Lawson, in his trip to the Carolinas in the early 1700s wrote, "The acorns thereof are as sweet as Chesnuts, and the Indians draw an Oil from them, as sweet as that from the Olive, tho' of an Amber-Colour. With these Nuts, or Acorns, some have counterfeited the Cocoa, whereof they have made Chocolate, not to be distinguish'd by a good Palate...The Acorns make very fine pork" (Lawson 1966). They were preferred for acorn meal, used to thicken venison soups, roasted in hot embers like chestnuts, and their oil used in cooking hominy and rice (Hudson 1976; Van Doren 1928).

How important live oak acorns were as food in Louisiana is not clear. Carbonized *Quercus* remains have been found in archeological sites in Louisiana, but identification to species is not possible (Dunn 1983). The acorns do not store well; they either sprout or are eaten by weevils if kept. Processing is tedious and time consuming and given the easily available wild game in the area year-round, live oak acorns were probably a supplemental seasonal food, gathered and eaten fresh, not a staple (Duhe 1980).

The trees had others uses. The bark and roots were used to make a red dye, and while the wood is so hard that it is difficult to work (especially without metal tools) it was a favorite for fires because it burns very hot (Dunn 1983). Another "product" of the live oak is Spanish moss (*Tillandsia*). The Natchez used it as a remedy in a sweat bath, packed it around babies on cradle boards as bedding and absorbent, and used it to fill pillows; others used it as menstrual pads, for plastering dwellings and to make clothing (Kniffen 1979; Swanton 1911:85-86). Live oaks also have an indirect role in subsistence—they attract a wide variety of game when the acorn crop comes in. Bear, deer, turkey, waterfowl and many other species eat the acorns in great numbers each fall. Before they became extinct, passenger pigeons, another favorite food, would arrive in enormous
numbers to gorge themselves on acorns of all kinds, including those of live oak (Martin, Zim, and Nelson 1951; Schorger 1973).

Managing or protecting live oaks might well have been among the subsistence strategies of these early inhabitants. In California, where acorns were a major staple, management of oak woodlands is a highly refined. Periodic fires maintain stands of preferred oak species and destroy pests that otherwise eat the crop. Knocking acorns off with sticks prunes branches and stimulates lateral growth and larger crops the next year. (Blackburn and Anderson 1993). Southeastern peoples used fire extensively to manage their environment. Areas around their villages were often open and parklike because of seasonal burning, and mast-bearing trees abundant nearby (Silver 1990). Although considered fire-sensitive, live oaks can withstand quick fires used to clear underbrush and could have benefited from such management (Delcourt 1977; Platt 1990).

Some have suggested that early Louisianans were involved in dispersal of live oaks. Grand Isle, at the mouth of Barataria Bay, is a young island, probably formed in the 14th century, and shows no evidence of having been permanently settled before 1700. "The growth of oaks was crucial for settlement for it gave the island an identity as an inhabitable plot of land in the midst of miles of treeless marshland" (Stielow 1975:29). Scrub oaks became noticeable about 1770, and Stielow suggests that Amerindian groups who stopped there frequently on hunting and fishing expeditions, may have "inadvertently dropped a portion of their acorn food-stuffs on such expeditions" (Stielow 1975:30). Such dispersal would only be possible over short distances because of how quickly acorns sprout once they mature.

Deliberate planting is another possibility. Lawson, in his description of live oaks in Carolina around 1700 notes "I knew of two Trees of this Wood among the Indians, which were planted from the Acorn, and grew in the Freshes, and never saw any thing more beautiful of that kind. They are of an indifferent quick growth; of which there are two sorts" (Lawson 1966:93). It is not clear from this if planting oaks was common
practice, nor have I found other references to tree planting. But the trees are easy to transplant, and Native Americans were skilled horticulturists so it was well within their capabilities to plant either acorns or trees. His comment about "two sorts" is also intriguing. Was he referring to different species, perhaps one of the smaller coastal species, or were there cultivated varieties with different characteristics? Could this be a remnant of pre-corn management of trees?

There are good reasons to live near live oaks: they provide abundant shade, protection from high winds and rains, and convenient, safe places to hang valued items. In Florida, live oaks were part of typical settlements on the shores of Lake George: "As I passed along, I observed some elderly people reclined on skins spread on the ground, under the cool shade of spreading Oaks and Palms, that were ranged in front of their houses" (Van Doren 1928:96). In Louisiana, the Choctaws, who lived in the oak-pine forests north of Lake Pontchartrain in the nineteenth century, settled around large live oaks. But there is no convincing evidence that the live oak was a sacred tree among Louisiana's native inhabitants, as the ceiba was among the Maya. There are contemporary stories that a live oak in Youngsville is sacred to the Chitimacha Indians, but no Chitimacha has confirmed this (Orso 1992). Their sacred tree was the cypress (Swanton 1911).

The relationship between people and live oaks in these early years appears to be like that described by Rindos as incidental domestication, that earliest stage of interaction that does not result in major changes to the plants, yet does alter conditions for growth and reproduction. Any open, disturbed habitat provided by shifting agriculture provided exactly the conditions live oaks need to get started; local squirrels and blue jays would take care of the planting. Humans also created new habitats that proved perfect for the live oaks. Throughout the marshes are large mounds of shell middens, up to 20 feet deep, created by generations of people subsisting on shellfish. Often these mounds were used for burials. Live oaks found these ideal habitat and colonized them. Although many
mounds have been submerged by rising sea levels and covered by alluvial material, archeologists spot them even today by the rows or clumps of live oaks that take advantage of this habitat raised slightly above the soggy plains (Haag 1971).

**Live Oaking**

Europeans' first encounter with the oak was as with an old friend. They recognized *Quercus virginiana* immediately as an oak, a genus that has a long history as both useful and sacred in the Old World. But the early colonizers were looking for natural resources, and what they saw was a great new source of timber. Cabeza de Vaca in his 1527 journey from what is now Tampa Bay to Tallahassee, noted the many *encinas* in Florida (Sauer 1971). He was using a word for the evergreen oaks of Spain (*Quercus ilex* or holm oak), recognizing the similarity to the trees of his homeland (deciduous oaks are called *roble*). Encina continues to be used in many placenames in the former Spanish holdings of North America. The English found extensive stands of the giant oaks along the Atlantic coast and on offshore islands by the early 1600s (Wood 1981). England has only deciduous species of oaks, so this new oak was christened live oak, to emphasize its year-round growth habit. The French called it *chene vert*, the green oak, also referring to its evergreen habit. Many places and families of Cajun descent bear the name Chenevert today.

The great fleets of sailing ships on which colonial power depended required enormous quantities of wood to maintain. Oak had long been prized as superior for this purpose and the once vast stands of Europe were being rapidly depleted during the colonial era. The wood of live oaks proved to be superior to the best European oak for the construction of ships. The curved and angled branches and the roots where they join the main trunk provided exceptionally strong pieces for sterns, transoms, futtocks, breasthooks, hanging knees, braces and other parts needed for frames of sailing ships. By the time of the Revolutionary War, it was widely recognized that the best American ships were made with live oak timbers (Wood 1981:15). Demand for the wood was high both
at home and abroad. During a rash of "oak mania" in the early 1800s much of the Atlantic Coastal stands were cut (Wood 1981).

To ensure a supply for the navy, the new American government began to set aside reserves of live oak stands, and one plan even called for the establishment of a live oak plantation. Managed woodlands with trees coppiced, pollarded and trained to produce desired shapes (rather than cutting wood to its use later) were an ancient tradition in England as well as France (Rackham 1976; Schama 1995). In the 1820s, Henry Marie Brackenridge, district judge for West Florida and a writer, presented the results of his studies of live oak culture, donated land for the purpose, and with the enthusiastic backing of President John Quincy Adams began cultivating thousands of live oaks on Santa Rosa Island near Pensacola (Wood 1981:50-51). Although the project was soon abandoned, the area is still an oak forest, now a park open to visitors. The dense stand of contorted, relatively small oaks hung with moss gives a sense of what the natural stands of coastal oaks were like.

Louisiana's live oaks were briefly affected by live oak mania. The state was known to have live oaks. Farther Pierre Charlevoix in his 1720 trip had noted about Barataria Bay that the "finest oaks in the world might be cut there, the whole coast being covered by them," and Bellin, a French cartographer, showed on his 1764 map of Louisiana a "forest of green oaks which are proper for construction" in that same area (Condray 1995). In the mid-1770s live oak was being cut on English lands along the Pearl River and sent (illegally) to the Spanish in New Orleans, where it was used to construct Spanish ships (Wood 1981:14-15). The oak-rich lands of the Atchafalaya further west were less accessible; when Cathcart and Landreth were sent to survey Louisiana for live oak and cedar timbers in 1918-19 for the U.S. Navy (see Chapter 3), the only place they found oak being cut for timber was in Morgan City. Their survey resulted in 7692 hectares (19,000 acres) being set aside for exclusive use by the navy. But in 1837, 200 private vessels carrying about timber worth $1 million, left the
Atchafalaya. Three fourths of it was probably taken from the reserved government lands. In the winter of 1840-41 more was cut, much of it sold to the navy that already owned it (Wood 1981:60).

The reserved Louisiana live oak lands were never logged by the navy. After the United States acquired Florida from Spain more live oak became available closer to existing shipyards; demand began to drop with the introduction of steam-powered, steel-hulled ships. This change in technology had an effect not only on remaining stands but on the attitudes toward the trees, which were beginning to shift from utilitarian to aesthetic concerns.

**Oak Allees**

The famous oak allees on the Mississippi River, part of the timeless image of gracious Southern life, mostly date to the relatively brief peak of the ante-bellum period, 1820 to 1865 (Fig. 4.12). They are the lasting legacy of a small but powerful minority of Louisianans, who would probably be surprised to see how their homes look today. The contrast in attitude toward the trees between live oakers and plantation owners could hardly be greater. The first saw them as raw material for ships; the latter as a way of demonstrating their aristocratic control of resources and aesthetic ideals.

The landscape on which these carefully arranged trees were planted had already seen major changes. Soon after the founding of New Orleans by the French in 1719, the first wave of European settlers arrived. Several thousand farmers, many from Germany, were lured by the extravagant claims made by John Law's Company of the Indies about the idyllic conditions in Louisiana. They were given plots of land below New Orleans, along the Mississippi River. The great tangled mass of subtropical forest was threatening to those from Europe, where most old-growth forest had disappeared long ago. Many settled land already cleared by Native Americans, while the rest cleared the natural levees, home of the live oaks, as fast as they could, replacing them with food and export crops.
Figure 4.12. Live oak allee at Rosedown Plantation, St. Francisville.
By mid-century a lot of the best land along the River was taken and largely devoid of trees. Only occasional live oaks survived, either because they were too large to cut or because they served as witness trees, marking the boundaries of land holdings (Rykels 1991; Orso 1992:55). In 1803, a traveler along the lower Mississippi was aghast at the barrenness of the landscape, describing it as a treeless plain, without even a tree left as shelter in fields (Rykels 1991).

But that was about to change. Louisiana was transferred to the United States in 1803 and became a state in 1812. An influx of wealthy Americans and French began to buy up smaller farms along the river to create huge holdings on which to grow sugar and cotton for export. They designed their plantations on an efficient, rectangular plan that emphasized straight lines: rows of crops and slave cabins with the sugar refinery in one area, luxurious mansion and gardens for the owner in another. For planting designs they looked to Europe. Gardening styles were undergoing great changes; in the 18th century the more informal English garden style began to compete with the dominant French and Italian style characterized by geometrical and formal patterns. On trips to the continent wealthy planters often visit Versailles and other formal gardens around grand country estates. A frequent element of these gardens was the allee, alley or avenue, an arrangement of trees along walks and drives that provides both visual focus and shaded areas for travel. The formal style fit well with the Classic Greek Revival mansions they were building, and suited their aristocratic status.

In choosing live oaks for their allees, Americans were responding to another European preference. Oaks have a long history as the premier useful and sacred tree in much of Europe. Within the great oak forests that once covered much of the continent, people used the wood, subsisted on acorns, worshipped in their shade, buried their dead in hollow oak logs, kept sacred fires of oak burning year-round and believed them to be the home of Zeus and other gods. Words for oak were among the first words in the Proto-Indo European language, and sayings about oaks are common in our languages.
today (Frazer 1922; Smith 1987; Friedrich 1970). Their importance for ship timber was so crucial during the colonial era that the British spoke about the country's "Heart of Oak" and concerns about the supply of oaks had led to legal protection of oaks in both England and France. Landowners had long been urged to show their patriotic spirit by planting oaks; and their picturesqueness and longevity were widely praised by landscape artists (Evelyn 1972; Schama 1995).

Some settlers of English background on the Atlantic coast had immediately seen the potential of live oaks as ornamentals. Even as ship builders were busily cutting the trees to use their wood or to make room for cotton, some gentlemen in Georgia were letting trees mature on their island estates. Brackenridge (1828) reported he had never seen a tree that improved so quickly in cultivation. In the South Carolina Low Country, allees of live oaks began to be planted sometime in the 1700s (Dunbar 1991), so that by the time John Muir walked through South Carolina in the mid-nineteenth century on his way to Florida, he spent several days camped out in a cemetery in South Carolina, among giant live oaks that had been planted the previous century. Even this most committed admirer of wilderness could appreciate these cultivated trees, and he called the live oak the "most magnificent planted tree I have ever seen" (Muir 1981). At that time the live oaks of the Bonaventure graveyard were fifty feet high and three or four feet in diameter. In Savanna, Georgia, live oaks were planted early, too; in 1867, there were old trees already well-established, giving the city well-shaded roads and parks like long-established European cities (Ratzel 1988).

Exactly when the first live oak allee in Louisiana was planted is not clear. Tradition has it that the oaks of Oak Alley were more than 100 years old in 1836, when the plantation home was built, and that the home, originally named Bon Séjour, was changed after travelers on the Mississippi coined the new name. Some unidentified Frenchman is thus given credit for this allee. However it started, the fashion spread quickly during the peak of the plantation era from 1820 to 1865. Soon the River Road
was lined with fantastic mansions and their new oak allees. Most often they led from the Mississippi River straight to the imposing Greek Revival plantation home. "The allee thus connected the house with the river of prosperity. It was a transition between the two environments" (Feltwell and Odenwald 1992). Other styles were to line the property limits, or to plant groves or pairs of trees near the home.

The fashion extended up river, and along the Red River, too, reaching at least as far north as Alexandria (Writers' Program 1941:663), well beyond what is considered the natural range of live oak. The Felicianas, just south of the border with Mississippi, were settled in the late 1700s by English speaking immigrants from the Carolinas and the influence was more in the English romantic tradition. Here amid the rolling hills, allees took twists and turns, like that at Afton Villa. Other plantation owners chose to put in large groves instead, clearing whole hillsides of native vegetation and replacing it with forests of live oaks as at Greenwood and Ambrosia Plantations.

But the popular image of antebellum homes, with moss draped giant trees, is a romanticized re-imaging of the past. In the nineteenth century, 150 years ago, most of the allee trees would have been small. Paintings of the era show that the focus was on the stately homes, that the trees were decorative, leading the eye to the building. Given the formal style of the plantations, and the French influence on this region, it is possible they even pruned the trees to keep them in bounds (Suzanne Turner, personal communication, June 16, 1994). Spanish moss was often removed because of its messy look. Other concerns were to keep circulation free around the home, because it was believed that this was necessary to prevent diseases. While in the north the romantic style of planting was becoming popular, with trees and shrubs closely encircling the house, Southerners preferred to keep plantings away from their home and well controlled (Bonner 1977).

The actual role of the allees in plantation life is not well known. Some of the plantation portraits suggest that this was definitely a formal area, a view presented to the
public, framing the view from the house and acting as an entrance way, a preparation for arrival at the mansion. Gardens for sitting or other activities, if present, were more likely to the side or rear of the home. In Martha Turnbull's diaries of Rosedown plantation in St. Francisville, she speaks of using the shaded area of the "Avenue" as a place to temporarily keep transplants for the garden. Each year in spring she notes it is time to "hawl out the leaves," noting who has done it. She also writes of trimming the trees (June 27, 1875). Her roses did not thrive for long under the live oaks; perhaps the trees grew much faster than she had imagined they would. It is likely that their rapid growth would have surprised those early planters. In this subtropical area, live oaks when given ideal conditions grow much more rapidly than any European oaks.

The Civil War had a lasting effect on the live oaks of Louisiana. After the war, many plantations were abandoned. The live oaks were left free to grow as they pleased, in an ideal situation with plenty of light. They soon overtopped the decaying mansions and formed impressive allees and groves of giant trees. Others colonized abandoned agricultural areas. Legends developed about the trees, many of which became historical markers. One tree in New Roads is identified as the place where James R. Randall wrote "Maryland, My Maryland." Stories are told of valuables buried in oaks to keep them from the Yankees. Others, especially along the Mississippi, are said to contain cannonballs from Civil War battles.

By the early decades of the twentieth century, the allee trees along the Mississippi, the Teche and the Lafourche, were becoming mature trees. Huge, draped in moss, they added picturesqueness to the ruined plantations that were beginning to attract tourists in greater numbers. When the annual "pilgrimages" or tours of old plantations began, the live oaks played a feature role. The 1941 Guide to Louisiana frequently points out the stately, ancient oaks at plantations along the various suggested travel routes and recommends picnics under clumps marking sites of former homes. The trees
were magnificent specimens, the largest plants by far in the flat landscape, often dominating the local scene.

Today's traveler along the Mississippi has the odd experience of seeing these old plantations alternating with enormous oil refineries. Starting earlier this century, the refineries began to buy up old plantation properties to extract the underlying oil and gas. While many of the old trees were removed or succumbed to pollution or root damage, some of the new owners were persuaded to preserve the old allees. Lately, they have even begun to plant live oaks at the entrances to their plants and in enclosed outdoor picnic areas for their employees. Is this an attempt to blend in, to become a legitimate part of this landscape? Even a large live oak is dwarfed by the large tanks used to store petroleum, and appears relatively insignificant next to the elaborate system of pipes and stacks of the refineries, but if the trees survive, perhaps they will eventually screen what is beyond from the road.

The plantation allee is part of the image of the deep South as it is presented both within the region and to outsiders. In Louisiana, pictures of Oak Alley or Rosedown Plantation viewed through the tunnel of live oaks appear on countless tourist brochures. Afton Villa's curved half-mile allee, with its underplanting of blooming azaleas, adorns the front of several southern gardening books and is often featured in calendars and other publications about Louisiana. There is no home left to tour at Afton, since it burned earlier this century, but visitors continue to arrive during the annual Audubon pilgrimage, to drive through the allee and visit the gardens and ruins, which the current owner has planted with flowers. Spanish moss is an important element in this image; it helps impart an aura of great age. Unfortunately, disease has killed off much of the Tillandsia in Louisiana. At Houmas House, during the filming of the movie Fletch, the crew asked permission to plant some moss on the trees for effect (Craig Black, personal communication, February 24, 1995). The results of that are still visible, as they only draped the trees needed for background.
The continued health of these oaks is of major concern in the state. As the trees age they are beginning to show the cumulative result of damage from lightning, hurricane and crowding. Keeping them in shape is costly, and replacing dying trees difficult since young trees put among the older ones are so shaded they cannot hope to catch up in size to produce a balanced look. Because the allees were planted in a relatively concentrated time span, they are aging all at once; in the next 25 years, many will be 200 years old.

New allees have been planted, and continue to be planted, although the effect is distinctly different in front of a twentieth century home, and most plantings are more modest now. The image of the plantation and its association with the good old days before the Civil War has inspired people to want live oaks on their property all over the state, often to the despair of landscape designers who know perfectly well how much space these trees need. It is another version of oak mania, this time focused on planting rather than cutting. Sometimes allee-like effects result when a whole row of neighbors agree to each plant two trees in front of their homes. Several streets in Baton Rouge have such plantings from the 30s that now completely cover the street, with homes tucked in behind them instead of at the end. But large property owners still plant long rows of trees along their entrance drives. The largest shopping complex in Baton Rouge, Cortana Mall, has lined its access roads with many live oaks, as have a number of hospitals, schools, churches and parks.

The Lone Live Oak

Romantic poets and artists in the mid-nineteenth century played an important role in developing another image of Louisiana's live oak—the moss-draped giant standing alone in a field, looming out of swampy mists, or protecting a humble farm house. Along the natural levees of rivers and bayous some of these old giants had survived. They stood out dramatically in sugar cane fields, left perhaps because they were too large to cut, welcome shade for those toiling in the fields (Fig. 4.13). Large old trees also survived in the swamps of the Atchafalaya and Barataria and along the smaller bayous, where Native
Figure 4.13. Lone live oak in sugar cane field.
Americans and newer settlers were engaged in subsistence farming, growing a range of crops for their own survival instead of devoting all to export crops. In that setting, a live oak provided shade and protection during high winds and rains.

To the Romantic imagination, nature was full of symbolism for the human observer. Walt Whitman was among the first to bring the live oak to the attention of the rest of the country with his poem "I saw in Louisiana a live oak growing." In it he describes "an immense tree; a tree of numberless branches" that stood alone in a field—"Without any companion it grew there uttering joyous leaves of dark green"—and admires it for the self-sufficient joy of which he is incapable (Whitman 1931:129).

Joseph Rusling Meeker painted the visual image that matched Whitman's poem. "More than any other artist of his time, he was responsible for creating for the nation's public the haunting image of the single moss-hung oak" (Pennington 1991:75). Meeker was entranced by another important poem of the era—Longfellow's epic about the Acadian exile, Evangeline. He began to paint his interpretation of the myth, and a series of paintings from 1871 on ("The Acadians in the Atchafalaya," "Evangeline," "The Land of Evangeline") included moss-hung trees, with vines, that he called "Evangeline trees."

During that same period Richard Clague painted more realistic scenes of trappers' cabins on the shores of Lake Pontchartrain and shanties on the Mississippi's levees, sometimes with a single live oak sheltering modest homes. His contemporary William Henry Buck was praised for his treatment of Louisiana's live oaks by the New Orleans press: "Buck often makes the live oak the entire visual focus of his paintings, hung with dripping moss and set against a chromolithic vision of sunset....these trees appear like implicit essays on the harmony of landscape" (Pennington 1991:85). Alexander John Drysdale, the last of a member of the bayou school, used a basic formula that included a bayou, water lilies and a live oak. Going no farther than City Park in New Orleans, he created hundreds of paintings that were so popular that "He attained a position of mythic exaltation during his own life" (Pennington 1991:91). The live oak became "an enduring compositional
convention in Louisiana painting, outlasting criticism, changing technique, and even the tides of taste. Finally it becomes the ultimate artistic parody, still hanging proudly for sale on the iron railing of Jackson Square" (Pennington 1991:77).

The ideal live oaks written about and painted by these artists are generally large, moss-draped, with branches reaching toward the ground. They are single trees, whole worlds in themselves, symbols of nature suitable for contemplation. They speak of isolation, endurance, self-sufficiency, romance, and the cycles and harmony of nature. None refers to plantations; if any humans intrude they are Indians, wanderers in the swamp or humble settlers, their homes nestled in the protective shelter of the tree.

This image persisted into the twentieth century and has long been used to promote the state's natural attractions, especially to those wanting to escape the tensions of modern life. Harper's Monthly of the late nineteenth century printed illustrations and detailed descriptions of the state's wildlife (Condrey 1995) and the Jefferson Parish Yearly Review of 1938 is filled with photos of large live oaks, draped in moss. One, showing a small house among large oaks bears the caption "Barataria. This section of southern Louisiana has long been famous for its dreamlike beauty. Huge, moss-draped oaks, the gentle murmur of the bayou and the warm, fragrant air all add to the atmosphere of drowsy peace." Similar descriptions are used in contemporary tourist brochures, which often include at least a branch of live oak, with the requisite tendril of moss, framing the image of a bed and breakfast or other attraction. The lone oak also adorns signs of many kinds and is the logo for numerous organizations including banks, real estate developments, environmental organizations, and even dentists.

The lone live oak is, of all the images of the tree, the closest to an image of nature, a nature that is larger, longer-lived than humans, and does not need humans. Protective, self-sufficient this mysterious and ancient native of the land offers humans rest, shelter and renewal.
Evangeline Oak

The story of how the Evangeline Oak has come to be a symbol of the Cajun people shows how words can call a place into being and how that place, and specifically the tree at its center, can play a central role in ethnic identity. The oak in St. Martinville draws more than 50,000 visitors each year from Louisiana and from all over the world, who come to honor the memory of the Acadian exile. It has been called the most photographed tree in the world, and is site of reunions, pilgrimages, political campaigns, weddings and festivals. So famous is this tree that a geography text says the common name of *Quercus virginiana* is "Evangeline oak," and in northern Louisiana a man told me an Evangeline oak is a live oak with branches that touch the ground. And it all started with a fictional epic poem that never mentions the tree nor what is supposed to have happened under it.

*Evangeline* is an epic poem written by Henry Wadsworth Longfellow (1964) about the tragedy of the Acadian exile. At the time he first published it in 1847 the world did not know about the expulsion of thousands of French speaking people from Nova Scotia by the English in the previous century. After wandering for several years, many of the survivors settled in southern Louisiana along the bayous, their new Acadia, where they established small self-sufficient farming communities beginning in 1775. French continued as their main language, and they formed a distinct, separate group within the state, living in linear settlements that often stretched for miles along the bayous. Eventually they expanded into the Atchafalaya basin, and the prairies, adapting their lifestyles to new conditions. As a group they became known as the Cajuns.

But Longfellow's interest was in the early years, when they were rudely thrown out of the land they had settled and made to search for a new home. He had heard a legend that intrigued him about two lovers separated during the expulsion, who had searched for each other for years. Based on this he created Evangeline, a pure and faithful girl who came to Louisiana searching for her betrothed, Gabriel. She found the
home of Basil the Blacksmith, Gabriel's father, sheltered under an oak on the banks of the Teche. Learning that Gabriel had just left for points north, she stood under the oaks in despair, and they whispered to her to have patience. Longfellow had never seen a live oak, but oaks show up in the poem both in the Acadians' northern home and in this southern area, generally suggesting strength and endurance. (He did read descriptions of the area so could include details like the Spanish moss.) The rest of the story describes her fruitless search for Gabriel until she arrives in Philadelphia and becomes a nun. The lovers are briefly reunited when Gabriel lies dying in the hospital where Evangeline cares for the sick. It is a tale of faithfulness and courage.

The poem was an immediate success and Evangeline became an international heroine, the model of Victorian modesty and faithfulness. Interest was also roused about the Acadian exile, and people began to look into the history of that event and at the Cajuns in a new way. Meanwhile, in St. Martinville, the story was being retold, with slight modifications (I am indebted to the fine reconstruction of these events by Brasseux's *In Search of Evangeline* 1988). One version toward the end of the century described a meeting between the two long-separated lovers, Evangeline and Gabriel, under a live oak on the banks of Bayou Teche. In "The true story of Evangeline" the heroine (now identified as a real person named Emmeline Labiche) arrives in St. Martinville only to find that her lover has married another. In her grief she loses her mind and soon dies.

A few years before 1902, the people of St. Martinville had settled on a specific live oak as the tragic meeting place, and called it the Evangeline Oak. But in 1902 someone attacked the tree, hacking its branches and killing it. The town's newspaper reported the great consternation and horror of residents at this shameful deed, and one contributor wondered why nobody had guarded this important landmark (An Acadian 1902). A new tree was soon named Evangeline, but since it was on private property, and many were beginning to visit the tree (that being the goal), the town had to choose yet
Figure 4.14. Evangeline Oak, St. Martinville.
another, which they did sometime before 1930. So this live oak, the third in a series, is presented as the place where an event Longfellow never mentioned happened to people who never lived (Fig. 4.14). Another tree at the nearby Longfellow-Evangeline State Commemorative Area is called Gabriel. The Evangeline tree was almost certainly not there in the mid-1770s when the Acadians began to arrive. In 1935, it did not yet have the minimum circumference that would qualify it for Live Oak Society membership, which suggests it was then less than 100 years old.

The place, though, has become real. Before 1920 it was primarily a local attraction, drawing visitors from as far away as New Orleans. But the 1920s brought two film versions of the story. After one of them, Dolores Del Rio, who played Evangeline, had a statue of the heroine made in her own image and donated it to the town. By the end of the decade, St. Martinville was a widely known tourist destination; in 1928 the French poet Paul Claudel came to make a "pilgrimage" to the oak and affirm the strong connection between France and Louisiana's Acadians. Huey Long considered it the right place to campaign for the Cajun vote when he was running for governor in 1928. It was during this period that the Acadiens began to adopt Evangeline as their heroine, their own "Joan of Arc" (Brasseaux 1988). Evangeline girls began to make trips to Canada, and the Louisiana Acadians were adopted into the international Acadien organization that had previously shunned them. But according to Brasseaux, it was the white-collar, middle-class Cajuns who took up Evangeline. Among the blue-collar contingent, about 70% of the whole group, Evangeline is not held in high regard and in fact ridiculed.

Nevertheless, the image of the Evangeline Oak has become a symbol of the Cajuns, a focus for a new sense of identity as a people. For years it was a backdrop of their lives, not something to make a fuss about. Along the Teche, their homes and barns were often shaded by live oaks left when they cleared their small plots for farms. Those who moved into the Atchafalaya swamp sought out the dry ridges marked by oaks, and harvested the Spanish moss from the oaks and cypresses. Tons of cured and dried moss

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
were exported from the region each year for stuffing mattresses and couches (Comeaux 1983; Kniffen 1979). In the open expanses of the prairies to the west, where they raised rice and cattle, they planted trees around their homes: chinaberry and catalpa for firewood and fenceposts, and often a live oak or two (Comeaux 1983; Post 1974). On the cheniers to the south, they lived among oaks, too, and their cattle grazed in the open savanna of live oak, prickly pear and palmetto. It was only in the twentieth century, when they were becoming conscious of themselves as a people with a distinctive culture, a source of pride, that they settled on the tree as a symbol.

Two twentieth century Cajun artists have promoted this process: George Rodrigue and Floyd Sonnier. Rodrigue's paintings are the more dramatic, with large, black oaks forming the backdrop against which he paints human figures. He says the live oaks are the Cajun symbol of hope, even though in many paintings they appear to be a more brooding than hopeful (Rodrigue 1976). Sonnier's oaks, by contrast, are detailed, leafy, protective trees. Generally there is one sheltering the homestead, a reassuring, friendly presence.

There is pride associated with the oaks, and a feeling of history and of belonging in this place. The largely Cajun town of Breaux Bridge put the live oak and the crawfish in its town logo earlier in the century, and is highly conscious of its old oaks. New Cajun suburban homes are likely to have two live oaks in front. A Cajun dictionary for sale in tourist stores shows the live oak on its cover along with a crawfish. At the annual Festival Acadienne, held in the shade of live oaks in Lafayette, the live oak decorates handkerchiefs, paintings, and T-shirts.

The Evangeline Oak, meanwhile, appears to be dying. The once full canopy, hung with Spanish moss, is now so thin that the sky is clearly visible through the branches. Twigs show little sign of growth and even the bark shows signs of stress. Pollution from buses has been blamed, but more likely it was the extensive renovations to the little park that surrounds the tree, and the large amounts of soil piled on the roots. Flooding may
also have caused damage. In a desperate attempt to save this sacred icon, the town commissioned a horticulturist to try air-layering some shoots. In 1995, high up in the crown, three shoots were covered with soil and encased in plastic to get them to root. The effort had attracted local and national press coverage (Tompkins 1994). Although unlikely to succeed, plans are underway to nurture the new trees in an undisclosed place so that they can continue the Evangeline story. The Romero brothers, who play Cajun music under the tree each day for tourists, have added this new story about the tree to their repertoire.

**Live Oaks at Sacred Places**

In southern Louisiana there is a strong association of oaks with sacred places, particularly cemeteries, churches and retreat centers. This association has some indigenous precedents, but is mostly a direct result of the long history of the oak as a sacred tree in Europe. Many of today's prominent oaks date to plantings in the nineteenth century. They have inspired imitation, and influence current planting patterns.

The ancient beliefs about the oak as the home of Zeus has already been mentioned, but the trees have also been important in Christianity. Early Christian missionaries were opposed to the oak worship so common throughout Europe, and often cut down sacred trees and groves. But some "christianized" the trees instead, building their chapels in the groves. Throughout the continent are examples of oaks in which Mary has appeared, and the trees are often associated with pilgrimage sites (Nolan 1986). Planting oaks near churches and cemeteries is common, and whole chapels have been built within the hollow trunks of some old trees (Evelyn 1972). Southern Louisiana was settled largely by Catholics, who brought their oak traditions along.

Masses were often held under the shade of live oaks before churches were built. In the oak and pine forest north of Lake Pontchartrain, the nineteenth century missionary Father Rouquette, known to the Choctaw as Chata Ima, often spoke to them in the shade of one of the enormous live oaks native to this area. One of his poems described
the live oak as the tree of life of the Choctaws. Several of his small chapels in the forest were under oak trees, and eventually legends grew up that he lived in a live oak; a book about him even included a sketch of his mythical dwelling (D’Antoni 1986:101). Today the tradition of outdoor masses on special occasions continues in some parishes.

Many Catholic and Episcopal churches built in the 1800s had live oaks planted near the building, at the entrance in front, or in a small grove behind. Today, these have become large trees, like those at Thibodaux and Donaldsonville (Fig. 4.15). Often they have statues, benches and even grottoes for contemplation. Several retreat centers are known for their live oak allees, such as Manresa in Convent, and Our Lady of the Oaks Retreat House in Grand Coteau. The allee of huge oaks at the Academy of the Sacred Heart in Grand Coteau, was supposedly planted by the priest who wanted a shaded walk on his way to say mass for the Sisters at the convent each day. These allees have been made into places of prayer by Stations of the Cross placed on or among the trees, and by statues of saints. Private homes, too, often have shrines under live oaks with statues of Mary or St. Francis.

Sometimes the influence from Europe is direct. In the small town of Maringouin, the parish priest, a native of Spain, has recently created a new shrine, Our Lady of the Oak, based on a traditional devotion to an apparition of Mary in an evergreen oak in Spain that dates to the Middle Ages. A three-dimensional statue of Mary is on the trunk of the tree, and in front of it is a small wooden altar and several benches (Fig. 4.16). In May, the month of Mary, the community celebrates mass outdoors under the tree and young girls crown the Virgin and receive first communion.

Live oaks and cemeteries have a logical association in the southern part of the state—bodies need to be in high ground or they are in danger of floating away. Where there are live oaks, there is often land suitable for burials, as both Native Americans and Europeans discovered. The Lafitte cemetery is an example of one of these old burial grounds, with graves covering the large mound to its top, which is dominated by a huge
Figure 4.15. Nineteenth century Catholic church with live oaks (Donaldsonville).
Figure 4.16. Our Lady of the Oak shrine in Maringouin.
live oak. But the live oak, being evergreen, was also planted deliberately in cemeteries by those of European background, evergreens having a long-time association with life everlasting (Nakagawa 1987). Some of Louisiana's most beautiful and famous cemeteries, like that of Grace Episcopal church in St. Francisville, were planted with live oaks in the mid-nineteenth century and are now shady and romantic places. Many smaller burial grounds also have their oaks, and cemetery names often reflect this association (Fig. 4.17).

Although early in the study it seemed that Catholic and Episcopal churches were most likely to have live oaks, especially compared to Baptist churches, the situation is much more complex than that of denomination, and is changing as new trees are being planted. The location and age of the churches play a part, as well as individual variations in who makes landscaping decisions. Right now, the live oak's popularity and role in prominent sacred places is having an effect on planting patterns, just as Cornish's yews did in England.

Live Oak Society

It was the president of the University of Southwestern Louisiana who began the most extraordinary campaign for live oaks, one that helped shape images of the trees, both inside and outside of Louisiana, and continues to have a major effect on the presence of live oaks in the landscape today. In 1934, Edwin Stephens published an article entitled "I saw in Louisiana a Live Oak Growing," recalling Whitman's words. Stephens had been impressed for some years by the fine live oaks in his region. In fact, he believed Quercus virginiana had been misnamed, claiming of Virginia "I don't believe she has ever had much to show in the way of live oaks....I have traveled in the Gulf coastal region quite extensively in the last few years, and I can confidently report that Louisiana has more and bigger and better live oaks than any other state I have visited."

He went on: "To my mind the live oak is the noblest of all our trees, the most to be admired for its beauty, most to be praised for its strength, most to be respected for its..."
Figure 4.17. Catholic cemetery with live oaks.
majesty, dignity and grandeur, most to be cherished and venerated for its age and character, and most to be loved with gratitude for its beneficence of shade for all the generations of man dwelling within its vicinity" (Stephens 1934:17,19). He proposed the formation of a Louisiana Live Oak Association, whose members would be trees at least a hundred years old. First among the centenarians he listed was the Locke Breaux oak, the largest tree he knew, measuring 10.7 meters (35 feet) in circumference, 22.8 meters (75 feet) tall, with a spread of 50.6 meters (166 feet) in 1932. It was in St. Charles Parish, on the banks of the Mississippi, four miles above Hahnville. He identified 45 others that were at least 5.2 meters (17 feet) in circumference, the minimum, he believed, to qualify as a member. Each member was to be sponsored by a human "attorney," who would measure it, name it and make sure it supplied annual dues of 25 acorns to the Society. These would be planted at Southwestern Institute farm, in Lafayette, to yield trees for distribution throughout the state. The largest trees would be officers, elected for life.

His announcement generated much interest throughout the South. Because of a general outcry from other states, he expanded the society beyond Louisiana. Once the society was officially begun, he initiated an annual "pilgrimage" to visit prominent members and induct new ones. The society achieved some notoriety and plenty of press coverage, and Stephens made it into the Guinness Book of World Records. After his death, the society was in limbo for a while, its records transferred to several organizations in turn, but since 1966 it has been run by the Federated Garden Clubs of Louisiana. As of 1996 there were more than 3000 registered members (including the Junior League members that have at least a 2.4 meter [8 foot] girth).

One of Dr. Stephens' goals was to protect the live oaks, for he had already seen how highway changes and rapid development threatened the trees. He actively tried to save a fine grove of trees in Breaux Bridge known as Paradise Woods, a spot to which artists flocked to paint. He was unsuccessful in that, but today membership in the Live Oak Society has often been used to save trees from being cut. Although it confers
absolutely no legal protection, official status as a member can arouses such public
sympathy when a tree is threatened that compromises are often made. In today's
landscape are many oaks that are no longer anonymous; they have been named, singled
out and recorded by people who have a personal relationship with them. Throughout the
state I have met people proud of these ties, reassured to know their trees are inscribed
somewhere. Most of them are not marked; this is a landscape of significance known only
to the initiates.

While the tree membership of the society is large, the human element has
remained minimal, as Dr. Stephens intended. It is run by a volunteer chosen by the
president of the Louisiana Garden Club, who maintains files on the trees, sends out
membership forms and talks to various groups and members of the press as requested.
Scrapbooks record articles on the society through the years. Many of the original
members listed in the files have died of old age or other causes. The Locke Breaux so
admired by Dr. Stephens became the property of the Hooker Chemical Company of New
York when they bought the land on which it stood in 1964. The new owners announced
they were going to cut the tree, which led a vigorous and successful campaign to save
the tree that included the governor. But within a few years the ancient tree went into a
decline (along with all the other trees on the property) and by 1967 the old president was
officially declared dead. Its final revenge was that it proved almost impossible to remove;
even dynamite failed to destroy the remaining hollow trunk (Dysart 1968). The search
for a new president eventually settled on the Seven Sisters Oak in Old Lewisburg (a
decision Stephens may have objected to since the tree has multiple trunks). The
induction ceremony festivities in 1966 were a major event that included live oak
doubloons and speeches by the town mayor and governor's representative. Since then
new vice presidents have also been chosen. One current vice president is the Cathedral
Oak in Lafayette (Fig. 4.18).
Figure 4.18. The Cathedral Oak in Lafayette, First Vice President of the Live Oak Society.
The Society points up some distinctive characteristics about the live oak in Louisiana—the personal relationships people have with them, their individuality, the powerful effect of naming the trees publicly and the role of private property. It was Dr. Stephens' strong affinity for live oaks that led to the formation of his society, but it would not have succeeded if he had not touched on something more widespread among the public. Giving the trees names made them no longer simply oaks, but individuals to be admired, honored, and protected. Yet in spite of being claimed by Louisianans, the fate of Locke Breaux and of Paradise Woods depended largely on decisions of private land owners. The current president of the society is also on private lands, surrounded by a fence, accessible only through seeking permission of the owners. While it is featured nationally in a catalog of "Famous and Historic Trees" put out by the American Forests organization, people living in neighboring communities may have no idea of its existence. The personalization of live oaks is important in the larger context of the nature-culture discussion, because it creates relationship, specific interactions between people and trees that affect the evolution and experience of the landscape, and conceptions of self and nature.

Other Landscape Roles Today

Home and community

Throughout southern Louisiana, and into northern parts of the state, live oaks are a symbol of home. Styles of planting vary, as do the homes. Pairs of trees in front or behind, single trees, or whole rows or groves can shade anything from elaborate mansions to simple cabins or modern ranch-style dwellings (Fig. 4.19). Even trailers are tucked into the shade of fine old trees. As one person remarked, "You don't have to have stately home to have a stately oak." Large specimens left over from plantation days can end up among new developments as the old properties are divided, so that new homes find themselves with already ancient trees. When they build, homeowners try place their
Figure 4.19. Homes with live oaks. Above, traditional home in shade of old tree at Ambrosia Plantation, St. Francisville. Below, city home in Baton Rouge.
homes in relation to existing trees, as if they had planned the whole thing years ago. Unwittingly they often kill off the trees by disturbing old roots.

Inspired by these images of long-established homes, many others are planting live oaks. On the outskirts of towns, thousands of young trees are getting started, most often two placed symmetrically in front of the house (Fig. 4.20). Some developers of neighborhoods have adopted live oaks as the main theme, lining roads with young trees that will eventually create a complete canopy. Those who plant these trees cannot always say exactly why they do it; it just seems right. One man said he derived pleasure from imagining the trees in fifty or a hundred years, and thought about all the people then enjoying the shade, as he had enjoyed the shade of other oaks.

Within towns and cities, the role of trees has changed since the mid-nineteenth century, when John Downing published a series of books promoting the planting of trees on city streets, on college campuses and other public places. Louisiana was late in adopting this approach to beautification. In the 1870s, when Savanna, Georgia, was already lined with ancient oaks, New Orleans was sadly lacking in trees, except within private gardens (Ratzel 1988). Toward the end of the century, though, live oaks began to be planted in some of the centers of towns springing up along the new railroad route that ran across the state. But it was in the 1920s and 1930s that the practice took off. Many of today's oak-shaded boulevards in New Orleans and Baton Rouge date to that period (Steele Burden, personal communication, January 13, 1995).

Today mature oaks are a source of pride to many communities. Contributing to this are the popularity of oaks as a symbol of the plantation era, the connection to individual and historic trees promoted by the Live Oak Society, their role in Cajun identity and an attitude toward nature that has become protective and admiring. Trees once taken for granted have become something to promote and celebrate, and in the process of identifying and caring for oaks, communities become aware of themselves as well. Some towns proud of their oaks are along the Teche–Breaux Bridge, St.
Figure 4.20. Homes with young live oaks. Above, prairie home with single tree in back. Below, modern suburban home in Baton Rouge with two trees in front.
Martinville, New Iberia, Garden City and Jeannerette among them. St. Francisville, where the live oaks are almost certainly introduced, is also proud of its trees. Farther to the east, Hammond recently became intensely conscious of its live oaks, and citizens have mapped and measured hundreds of them, adding many to the rolls of the Live Oak Society, whose headquarters are in that town. The town's prominent water tower has a live oak painted on it. In Port Allen, across the Mississippi River from Baton Rouge, there is even a Mardi Gras crewe named "Good Friends of the Oaks."

A community particularly fond of its oaks for other reasons is Grand Isle, down at the mouth of Barataria Bay. They are the guardians of this community, so often struck by hurricanes. The oldest homes in the island, some dating to the 1700s, have survived within the stand of live oaks that residents fiercely protect. Many of the trees, perhaps all, were planted by people, and long-time islanders know well that without the live oaks life would be impossible here. Neighboring Chenier Caminada, cleared of oaks (or never planted?) was completely destroyed in 1893, all the residents killed, their homes swept away. Through the years the island has been sugar plantation, truck garden and resort, and the live oaks have had a role in each era. New rules prohibit cutting of the oaks, which in recent years have seen bird lovers wandering among them in spring, looking for migrants on spring and fall migrations.

Within larger towns and cities, live oaks are not evenly distributed. They often mark the more affluent neighborhoods. Cultural preferences are cited for this difference, but small properties and an unwillingness of utility companies and city agencies to maintain the trees unless required to by residents also play a role in this pattern. Large low-income housing projects seldom install live oaks.

Important places within the community like courthouse squares, the courthouse itself, and other public buildings frequently have live oaks (Fig. 4.21), sometimes accompanied by other symbolic trees like magnolia (the state flower), crape myrtle and

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 4.21. Live oaks in front of courthouse, Baton Rouge.
cypress. Parks, too, are the place of live oaks. City Park in New Orleans in the 1870s was a swampy expanse of giant old trees that did not resemble a European concept of a park (Ratzel 1988). Today it is celebrated for having a stand of live oaks that predate the founding of the city. Thousands of additional trees have been planted there during the twentieth century. A map available at the visitor's center in the park outlines several walking tours with stories about individual trees, all of which have been named and enrolled in the Live Oak Society. It is a place of legend, linking the city to its past. The Dueling Oaks is where hot-blooded Creoles decided matters of honor by holding duels. More important today, though, it represents a piece of primordial landscape enclosed within the modern city that has completely encircled the area.

Schools also seem to be preferred habitat for oaks. Day care centers, grammar schools and high schools, parochial or public, often have live oaks. They range from a few large old specimens to whole borders of trees along the entrance drive or property line. Their presence there reinforces the importance of live oaks in the landscape. Children remember them. One change in recent years is the installation of structures around the trees, making them safer for trees and children, but also creating a different way of interacting. College campuses all over the state seem almost to require live oaks. Louisiana State University at Baton Rouge, and campuses in Lafayette, Hammond, Thibodeaux all have fine stands of live oaks as do Tulane and Notre Dame in New Orleans and many other campuses throughout the state. They recall Semple's descriptions of the Greek Academy and its tree lined walks.

Natural Stands

Remnants of native oaks along natural bayou levees persist. Highland Road in Baton Rouge has ancient trees believed to predate settlement, which some members in the community have been struggling to protect from development for years. Along sections of Bayou Teche are fine old live oaks that have grown on their own; until relatively recently the area was sparsely settled and not extensively cleared. Their area is
shrinking as more people want to build on the levee and compact the soils (Jim Foret, personal communication, December 22, 1994).

Along the southwestern coast in the chenier plain, is Holleyman Sanctuary, a small natural area managed by the Audubon Society with the goal of restoring a natural chenier. Only two such places exist—the other is Little Pecan Island, overseen by the Nature Conservancy. As the forests and other native habitats of Louisiana have shrunk, they have become more valued, and are now seen as needing protection. An interpretive sign outside the mosquito-infested, tangled low forest of live oak and hackberry explains to people what is going on here. A few trails lead into the trees. Other than that it is to be left without human interference. This is a version of the live oak completely different from the familiar images of home, community or historic trees. The trees are small and often lopsided, valued not for their individuality or relationship to humans but as guardians and members of a nature we do not fully understand.

In the Barataria swamp, at Jean Lafitte Park, are live oaks growing on old shell heaps, and along a boardwalk that leads into the swamp. These trees, too, are not like the trees of settled regions with their spreading crowns. They are taller, competing for light with other species of the forest, and often have contorted branches. They are closer to the wild-growing trees that Cathcart and Landreth observed in the early nineteenth century, although, as in the restored cheniers, humans are not absent, but rather managing and observing.

Roads and Travel

Years ago, it made sense to have trees along roads. They marked the route, indicated important intersections, and gave protection from sun or wind or rain. Occasional large trees were also convenient rest stops. But as travel rates have increased and the number of cars has gone up, trees in Louisiana have become a liability. They can obscure the view, drop branches or be in the way of tall trucks; as roads have been widened even the trunks are a problem. The Old Spanish Highway Stephens so admired
for its thousands of oaks lining the way has far fewer oaks today; route 190 west of Baton Rouge once had planted oaks, that are now mostly gone. Lafayette streets keep losing oaks as they are widened. An oak known as the Traveler's Tree in Hammond, once a rest spot at an important intersection, and a community gathering area, is now just one of many trees in the town. Some trees remain as landmarks; the Back Brusly Oak and the Stonaker Oak in New Roads, and Henry Chiquette's oak on the River Road in Welcome are examples.

**Comparisons**

Both ceibas and live oaks have had a long association with humans. Native Americans in Guatemala and Louisiana affected these large species by altering their native habitats and creating disturbed land for them to colonize. Their reproductive strategies, adaptability and long life all contributed to developing a relationship with humans that assured their continuity. Although both have provided useful products for humans, they have been more important for other reasons, including shade, and today they are valued and protected for symbolic, sacred and aesthetic reasons. They are each the most celebrated trees in their respective regions; the ceiba is officially the national tree, while the live oak seems to have taken over the role as Louisiana's tree although without official proclamation.

Their paths to prominence were different. Both regions were subject to European colonization, though the effects of this, and the resultant role of the trees varied. In Guatemala, the Mayan people and their culture continued to be a vibrant presence throughout the Spanish conquest, and the ceiba tree and its symbolism as the tree of life have become a part of the modern state. In Louisiana, Europeans of French, English and other cultural background have imposed their symbolism on the landscape, only occasionally recognizing the present of Native American peoples, and thus have brought the live oak into prominence. But in both cases, new relationships developed that reflected not only the people involved but the nature of the trees as well. The modern
image of the ceiba in the plaza, for instance, shows a blending of pre- and post-Conquest images concerning the role of nature in culture; the various aspects of the live oak's role show how relatively quickly a tree species can come to be symbolic of an era or ethnic group.

Almost all of the highly celebrated trees of each species are to be found cultural settings. While some are remnants of wild stands now surrounded by settlement, many were planted by people. They have been spread well beyond their native range, the ceiba reaching higher elevations, the live oak moving north and, even more important, into new niches within its native range. Because of their great adaptability, the trees often survive even amid the crowding and other problems encountered in living with people, and their great size implies great age to humans, who honor and protect the oldest trees. Almost inevitably, these trees gather legends about them and thus become historic sites, monuments that help recall human history.

Within the cultural landscape, the two trees occupy some remarkably similar niches. Both are prominent at community centers and gathering places like plazas and parks. They are likely to be near buildings associated with political power like courthouses and municipal offices. Schools, from kindergartens to universities, often have ceibas or live oaks. Within their native ranges, they are likely to be along roadsides, at intersections and, as lone trees, in pastures and agricultural fields and on ruins. Finally, both are found at churches, cemeteries and other sacred places. Images of the trees are frequent in signs and logos and tend to be associated with food, rest, comfort, ethnic identity and other positive values (Figures 4.22 and 4.23).

One of the most striking differences between the two trees is that the ceiba appears to be a public tree, while the live oak functions as public or private tree. In Louisiana, the live oak is an important image of home, and the relationship with the tree is likely to be highly personal and informal as people name the trees, enlist them in the Live Oak Society and plant their own young trees in front of their new suburban homes.
FIGURA 4.22. Logos usando ceibas.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 4.23. Logos using live oaks.
Another difference is that the ceiba is most often planted singly, while the live oak is likely to be planted in large groups, in allees, boulevards or groves. This reflects their pattern in the wild to some extent, though it also a difference in how the trees are treated in the cultural landscape. There are examples of ceibas lining roads in some regions. Some of these differences may relate to the extremely different patterns of land tenure, town structures and architectural styles in the two areas. In Louisiana, private property is common, a relatively small proportion of the population is involved in subsistence agriculture, landscaping styles in towns often emphasize shade trees on streets and private lawns. In Guatemala, by contrast, private holdings are small, a high proportion need to raise food, and town properties are surrounded by walls within which are private gardens.

Young trees of both are being planted in both regions. In Guatemala, these tend to be in plazas and schools, and in places important public places. Some private commercial establishments have also put them in front of their businesses. In Louisiana, live oaks are going in by the thousands in front of new homes, and at malls, parks and businesses.
CHAPTER 5: HUMAN-TREE RELATIONSHIPS

Big old trees often appear as permanent fixtures in the landscape, a backdrop for human activities. In fact, they are active participants in landscape evolution. Humans may exercise control in the placement, appearance and survival rate of trees, but the trees, in turn, exert an influence on human behavior: they alter the local environment, provide a setting for certain activities and require constant adjustments as they grow and change. Unlike domesticated crops, bred to be small, uniform and easily controlled, ceibas and live oaks can reach enormous sizes; their roots and branches are no respecters of boundaries and sometimes behave in unpredictable ways. How people interact with them gives some insights into their relationships to nature, and into the process of landscape evolution.

This chapter takes a closer look at what exactly goes on between people and trees as they go about their daily lives. The discussion is organized in two main parts: the first examines trees as places, using examples of how specific trees and tree places in Louisiana and Guatemala help shape daily activities and thus influence people's sense of cultural and personal identity; the second considers the trees' point of view—how their lives are changed for better or for worse by people's activities. Because of my longer time in Louisiana, and my greater familiarity with that cultural setting, there is more thorough information about live oaks.

**TREES AS PLACES**

Reaching the cool shade of a spreading oak in Louisiana brings powerful physical changes. The temperature drops dramatically, glaring sunlight becomes diffuse and comforting shade, the air is easier to breathe. Large trunks and low limbs give something to lean against, and create an enclosed space. Looking up into the spreading limbs is restful, as is the sound of evergreen leaves rustling (Fig. 5.1).

People react to big trees on several levels: biological, cultural and personal. The responses described above are biological. Often overlooked, they are nevertheless
Figure 5.1. Trees as places. Above, people relaxing in shade of Friendship Oak, Hammond. Below, the Imperial Oak, Hammond.
important in understanding why big old trees are so fascinating to people and why they have long been such crucial places in the landscape. Trees as big as ceibas and live oaks mean shelter and safety in the landscape, places from which people can observe the landscape while remaining hidden from danger (Appleton 1975). They are natural places for sleeping, preparing food, group gatherings, and play.

Added to the biological comfort of big trees is the cultural layering of meaning around them. As discussed in the previous chapter, ceibas and live oaks, because they have been singled out as symbolic trees, have been allowed or encouraged to grow within the cultural landscape in certain contexts. These locations are often important ones, like town centers, homes, entrances, official buildings, schools. The trees are generally the largest living thing within the built environment, larger than many built structures. They provide striking contrasts: organic nature in the midst of a largely inorganic structures; curved, irregular and changing forms surrounded by geometric, regular and unchanging buildings; shade and quite amid noise, pollution and the harsh light reflected from pavement. While many of the activities that once took place under trees now happen in buildings, ceibas and live oaks continue to witness certain kinds of events. People who enter their shade behave in certain ways; often they share the space with others, which invites interaction. These interactions with the tree and with each other create places within the cultural landscape. The following section considers some of the most important categories of trees as locations for community interaction, symbols of home, areas for childhood play, witnesses of sacred events, signs of historic or personal meaning, and as sources of danger.

Community

A widespread image of the ideal village includes an old tree at the center. In Guatemala, there is a saying that "every village once had its ceiba." I cannot vouch for the truth of this statement, which may refer to an ancient Mayan settlement form in the Petén lowlands. But there is one tree that seems to embody the ideal: the ceiba of Palín
(Fig. 5.2). I spent several days there, watching and talking to people, to learn about the nature of this place and why it is so important as a symbol for the rest of the country.

Early in the morning, the area is quiet, only a few women and young girls uncovering their stalls, wrapped in bright blue plastic sheeting for the night. A few set up near the center, close to the trunk, are already dishing out *atol*, a steaming hot maize gruel, into bowls or cups. Customers sit on the steps of the massive cement structure that surrounds the tree. Young girls play and joke with each other and their younger siblings, some eating breakfast as they begin their daily routine. The ground under the tree is remarkably clean, swept constantly by women and girls, as if this were home.

The plaza is a curious mixture of private space, an extension of home, and public place, where community relationships are played out. The *vendedoras*, who sell fresh fruits and vegetables, dried and prepared foods and flowers, are the Poqomam-speaking women of Palin. Their place is the south side of the tree, where they have permanent stalls. Women and families from Santa María de Jesús, the next village up on the flanks of the volcano called Agua, spread their more temperate produce on blankets on the north side of the tree. Outsiders from Guatemala and elsewhere have their spots mostly on the edge, although I met one woman who sold fabric scraps near the center. Men selling books, clothing and dry goods stay out at fringes of the tree's shade or in neighboring tin-roofed shacks. *Ladino*, or Spanish speaking, women from Palin come to buy produce, often from their favorite *vendedora*. By mid-morning the trade is brisk.

The market under the ceiba is the village's gossip center, news spreading quickly from stall to stall. The tree also brings contact with the outside world. People come to Palín for two main reasons: to buy at the market and to see the famous tree. Guatemalans from the nearby capital often combine shopping and fun. Families stop on their way to the coast, to sit in the shade and eat while the children run around the tree or read the signs at its base. One family that took me there considered it a fine Sunday outing, following the visit with a trip to the nearby hot springs. Foreigners are
Figure 5.2. Market under ceiba of Palin.
infrequent—this is not on the regular tourist route, though occasional groups come to see the tree. There are no hotels in Palin. Strangers must leave at the end of the day unless they have a friend in town. Once vendors clear out of the north side of the plaza, it becomes a basketball court. The stalls remain untended, safe, beneath the tree.

The ceiba is the focal point for all this activity. Visitors coming into Palin stream down the streets straight to the plaza and its shaded market. Stalls are arranged and oriented in relation to the tree. Those not buying or selling tend to sit or stand either facing the tree from the plaza edges or church steps, looking in, or on the cement structure that surrounds the tree, looking out.

The women don't say much about the tree to me. One tells me it was planted by "los antepasados," and two old men standing on the steps of the cathedral say it is 450 years old. Its massive roots, which are breaking apart the cement structure that surrounds the tree, have grown into the church basement (¿Una ceiba católica? [A Catholic ceiba?] we joked). An anthropologist who lived in Palin for several years tells the story the ceiba's nahual or spirit. This spirit is a fat white woman in a white dress who planted the ceiba years ago and now, being fond of motoring, rides on the hoods of cars that stop under the tree (Maynard 1963:91). A scary, though harmless, snake is said to live in the tree, too. A few years go, a vendedora put up the large pigeon house high in the tree, and sometimes women look up from their work to watch the white birds flutter around in the tree's massive branches. The tin-roofed shacks that border the plaza, extending the market, are blazing hot on this sunny day.

Such market scenes under ceibas are scarce today in Guatemala. Except for the town of Sacapulas, which is said to have two old ceibas still shading the market, I have heard of no others on the scale of the Palin tree. But people remember them. Escuintla, just west of Palin, once had an enormous ceiba that was removed some years ago. Today it is the antithesis of the Palin plaza, with trimmed, small shrubbery along diagonal paths lined with benches. According to one writer, cutting the tree turned the plaza into a tin-
roofed oven (Polonsky Celcer 1962:66). It also removed the center, the focal point around which people orient themselves. Many people I spoke with on buses throughout the country remembered old village ceibas long gone. Ceibas in plazas are most often right in the middle, though occasionally off to one side, sharing the space with a basketball court, fountain, benches and often a playground. Whether the plaza is just an open field in a remote village or a highly designed modern space, the large tree is a magnet and its importance is clear from its placement right at the heart of the community's symbolic center.

Depending on the time of day, one is liable to see old men dozing in the shade, food vendors selling their wares, teenagers hanging about watching each or playing ball, families coming to visit with friends, young couples courting, boys or men offering to shine shoes, and children at play. In San Francisco Petén, on the night before Lent started, the community gathered to celebrate Carnival under their ceiba. In Los Mixcos, in the mountains near Guatemala City, people from the surrounding towns come each Sunday afternoon for soccer games, and all crowd into the shade of their ceiba.

In Louisiana, live oaks, too, have been community centers, though in a less formal way, since there is no comparable place to the plaza. The Back Brusly Oak, for instance, stands at a cross roads of that small town, a well-known landmark and reference point for directions (Fig. 5.3). A prominent sign announces its name and that it is a registered member of the Live Oak Society, and the nearby bulletin board holds community news: local events, puppies for sale, jobs available. The owner of the nearby grocery store told me that when she was a child, three men used to spend their days sitting on makeshift benches on the tree's roots and tell stories to neighborhood children. She says that was before the town grew so much, when everyone still knew each other. Like the ceiba at Palin, and the other less prominent village ceibas, this live oak is associated with community identity, with a center, and with an ideal of what village life used to be like, "when everyone knew each other." But like so many live oaks in
Figure 5.3. Above, the Back Brusly Oak in its setting. Below, townspeople with portrait of the tree used in announcement of town's 95th birthday celebration.
Louisiana, this tree is now on private land; in fact, it straddles the property line of two adjacent landowners. Instead of being a place open to all, where people can gather, it stands alone, not so much a place of interaction as a visual landmark of the memory of community. A portrait of the tree was used in the town's announcement of its 95th birthday party, indicating its ongoing importance to the residents (Fig. 5.3).

The Gossip Tree in Golden Meadow plays a more active role in maintaining community identity. In terms of scale, it is hard to image a setting more different from that of the Palin plaza. I found the tree by chance, while on my way to Grand Isle, my attention caught by a group of elderly men sitting in the shade of a small, scrawny live oak (Fig. 5.4).

When I stopped the car and got out, hesitating, the group of about nine men gestured to me to come on over. Speaking in strong French accents, they introduced each other and explained that they meet here every afternoon. One man's wife calls it "headquarters," and the local priest refers to them as "the circle of wise men." Here they speak their native Cajun French, telling stories, finding out what's going on in town, helping out any member of the group who's in trouble. One man, who couldn't speak or walk after a recent stroke, managed to come over each day on his electric cart. The tree trunk is covered with signs, including a photograph of Governor Edwards, each with a story the group can recall. Fishing nets hang from a second oak, waiting to be mended. They know exactly how old the tree is: it was planted 45 years ago, the day one of the group got married. It is important that it is a live oak. They don't meet under pecan or a magnolia. The Spanish moss in the tree is planted—they pick some up along a road to the north and hang it on the tree to help keep out the sun in summer. On my way back on Sunday they were having a crawfish boil in the tree's shade.

The Evangeline Oak in St. Martinville has become a powerful place in Louisiana's landscape. Although its designation as an important tree was contrived, what has
Figure 5.4. The Gossip Tree, Golden Meadow.
happened there since helped create an important place, part of the identity of St. Martinville, the Cajun people, and Louisiana. Much of what goes on here is for the tourists. They arrive by the busload all day, some with only enough time to jump out and take a photograph. If they’ve planned ahead, they may get an official welcome by the Mayor of St. Martinville and hear a brief "history" of what happened here, in English or French, recited by a woman dressed in an Evangeline costume. During the warmer months, the Romero brothers tell stories and play Cajun music near the tree, often gathering large groups who join in the singing and clapping. On weekends, wedding parties come to have their photos taken by the tree, or even to be married in the small gazebo that looks out over Bayou Teche.

The local residents have mixed feelings about the tree. Some regret such an unattractive tree was chosen to be Evangeline, or make fun of all the fuss. Others enjoy a quiet walk along the bayou at night, pausing at one of the benches under the tree. A waitress told me she had never read Longfellow’s poem, but that on a full moon the bayou next to the tree is the most romantic place to be. Some local festivals take place there. For those in the tourist trade, it helps provide a living.

The many oak-shaded parks of Louisiana towns are the sight of another kind of community interaction, that of strangers meeting for an afternoon for festivals. Whether it is Cajun music and culture in Lafayette, crawfish in Breaux Bridge, Irish music in Madisonville, or a picnic after the Shrimp and Petroleum Festival in Morgan City, Louisianans spread their blankets and set up their chairs in the shade of the trees and sit back to eat, drink and enjoy the music and dancing. The interaction is different in this context, where the trees as a group form the background, not a readily visible center.

In Hammond, focusing on the town's live oaks has helped promote both community identity and environmental awareness. Frank Neelis of Hammond instigated a survey of his city's live oaks after Hurricane Andrew that inspired others to get involved. Volunteers on bicycles went door to door, or rather oak to oak, assessing conditions,
offering homeowners a chance of a free consultation on tree care. They turned up many
live oaks that qualified for Live Oak Society membership and mapped the location of
hundreds of trees. The town has also worked with utility companies to rethink policies
regarding trimming of live oak branches. Hammond has since passed local ordinances
protecting live oaks and claims to have more live oaks per person than any other
community in Louisiana. There has been talk of regional meetings with other towns and
parishes about trees and their care.

Home

One of the major distinctions between live oaks and ceibas is their role in private
life. Ceibas are primarily a tree of the community, of public life. The live oak is a tree
that means home and family to many people in Louisiana. Those who grew up with live
oaks in their yards remember playing under the trees when young, attending family
crawfish boils, spending long hot summer afternoon sitting in their shade (especially
before air-conditioning) and putting decorations under them at Christmas. They speak of
lightning strikes, of watching them during hurricanes, of worrying about whether to
prune or fertilize them. Often they are used to give directions or identify a particular
home (Fig. 5.5). The trees are so familiar to them that when one dies they are likely to
mourn them like a family member.

A young woman who grew up along Bayou Teche and now works at the
Longfellow Evangeline State Park in St. Martinville, said the big old live oak that had
always been in front of her family home came down during Hurricane Andrew, a
devastating event. She replaced it several years later with a young tree that sprouted
from one of Gabriel's acorns, after nurturing the seedling for several years in a pot. The
image of home with a live oak, she said, is "burned into your brain" when you grow up in
that area, perpetuated also by popular paintings of artists like Rodrigue and Sonnier.

Single trees, or pairs, shelter homes of all kinds. Large old trees give a homes a
sense of permanence, of belonging. Those who live on properties with mature allees
Figure 5.5. Old lone live oak on River Road, now marking private home.
become poetic when they describe the feeling of returning home under the trees. They seem more aware of the trees than the buildings. Along the lower bayous, the trees are a handy place to dry fishing nets, and give shade for the chickens. They are familiar, companionable sort of trees. Along the coastal cheniers they have the added role of protectors from hurricane winds. With new studies that prove their effectiveness, more live oaks throughout the state are acquiring this status.

Ceibas are much less frequent at private homes in Guatemala. On the slopes of the Pacific Coastal region, self-seeded trees were sometimes visible in pasture lands around homes, but I have seldom seen a home nestled up under the shade of a huge old ceiba. Perhaps the huge buttressed roots make such proximity difficult. Certainly their branching pattern has nothing intimate about it, and relatively few Guatemalans own enough land to accommodate a ceiba. The amate is a more likely candidate for home shade tree; it is a much more familiar and informal tree (Polonsky Celcer 1962:98).

Play

Children have a special affinity for trees, and interact with them more physically and directly than most adults. Their experiences help shape their perception of the world; their memories of specific trees give depth and meaning to the landscape and are powerful influences in later life (Clay 1957-1958; Stilgoe 1995). Large trees like ceibas and live oaks are often important locations where they spend hours alone or with friends. Watching youngsters in San Francisco Petén and in City Park, New Orleans, I was struck by their familiarity with trees, their affection for them and the way the trees' different structures dictated how they could interact with them.

Live oaks practically demand to be climbed, especially trees that throw their branches right down onto the ground, inviting even the most timid child to give them a try (Fig. 5.6). Many live oaks children remember are ones they had at home or immediate neighborhood. This is where they had their swings, played house under the trees, using the prominent roots as natural room dividers, or played games with the acorns. One
Figure 5.6. Children playing on live oak, City Park, New Orleans.
father told me the long horizontal limb of a live oak was where his children took their snacks, holding afternoon teas eight feet above ground level. Tree houses are still popular, everything from a few bits of wood nailed to the trunk for a ladder, with an inconspicuous platform above, to elaborate structures with several rooms and even porches. One ancient live oak in Maringouin, at Mound Plantation, is the family's focal point for outdoor living. Stairs lead up into the tree house, while rabbit hutch, a trampoline, and a tent cluster below (Fig. 5.7). At Halloween one year it was the center of a spooky party, decorated with spider webs and carved pumpkins. Many times I have heard stories of people returning to a childhood home to find their favorite oak gone, and being devastated at the loss (the house is much less important). Being in the tree is important; it is a whole world to explore, one that feels safe and is endlessly fascinating. Live oaks seem to have been designed specifically for this sort of intimate contact.

Ceibas, by contrast, are hard to climb. Their limbs do not dip down, and their fat trunks are often covered with large, sharp, thorns. Nevertheless, children want to climb them and often do. Youngsters in Jocotenango, outside of Antigua, have been successful. Either by accident or on purpose, the growth center of this relatively young tree was destroyed. But a large ceiba is formidable, especially one with buttressed roots. The children at San Francisco Petén played among the gigantic roots, hiding within them, dwarfed by them (Fig. 5.8). The tree is a central gathering place, but since they cannot get up into it, they have developed other ways to interact, like throwing things up into it to dislodge the electric lights. When I asked for help to see some leaves up close, they hurled sticks up to break off branches. They were proud of their tree, wanting to know if it was bigger than the famous tree at Palin, far away to the south, that they had heard about. In other plazas, I have watched children playing hide-and-seek around the tree trunk. In Palin they played games on the steps or chased each other around the tree. The smooth ground between buttressed roots of the tree in Colonia Hunapu was perfect for marbles. Like the live oaks, ceibas of childhood are important in remembered landscapes.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 5.7. Live oak with elaborate tree house, Maringouin.
Figure 5.8. Child dwarfed by giant roots of ceiba, San Francisco, Petén.
Sacred Places

One of the surprising observations during my fieldwork was that the live oak, which few would call a sacred tree in Louisiana, appeared to be the setting for many more sacred events than were the ceibas of Guatemala. In part, this may be the result of my having spent far more time among the oaks, but it points out that the experience of the sacred in the landscape is more common in the modern, secular United States than most suspect. As Eliade (1969) has pointed out, sacred trees are not objects to be worshipped for themselves, but in their role as the place for communication with the gods. They are a place where the sacred world can break through into our reality. Ceibas and live oaks can inspire awe, an important component of religious experience. Their size and age are part of this—humans are small and transient compared to these big old trees. Within their shade the world is different, not ordinary, another aspect of sacred space. Seeing the trees in sacred contexts, as in front of churches and in cemeteries, over a life-time would add to this association of trees with the sacred.

The ceiba's reputation for sacredness comes from its identification with the Maya. Perceptions of the trees among today's Guatemalans varies. The only first-hand experience I had that suggested the tree is still considered sacred was in a Mayan village in the Yucatan, near Valladolid (Mexico), where I was not even allowed to photograph the tree in the center of town. I have heard unsubstantiated reports that the Lacandon of the Guatemalan Petén still conduct certain sacred rites at ceibas, especially at Sayaxché, and that this is also true among some Maya on the Pacific lowlands. In the highlands, around Guatemala City and Antigua, the Mayan people I spoke with were puzzled by my questions about ceibas and whether it is a sacred tree. It is "el árbol nacional" they said, and several indígenas insisted that it is "just a tree." It is true that many Guatemalans, whether Maya or not, do not cut the trees when they clear forests. Whether this is because they consider the trees sacred or because it is illegal to cut the national tree probably varies.
I never saw any specifically sacred events taking place at ceibas by churches, nor did people mention any, except for the celebration of Carnival at the ceiba in San Francisco Petén. Most religious processions, however, begin and end at the local church, so they would happen under a ceiba if there is one. If one considers their role in orienting public life, as the physical sacred center, then perhaps they still fall into the category of sacred tree. My limited time of fieldwork in Guatemala produced more questions than answers on the topic of how people regard the tree as sacred today.

The live oak, by contrast, is regularly chosen as the site of both public and private sacred events in Louisiana. Catholic masses are still held under live oaks, as at "Our Lady of the Oak" shrine in Maringouin (Fig. 4.16). Father Ibañez, the pastor, told me that when he looks up into the live oak's branches, it is like looking up at the vaulted arches of a cathedral. At the Poche home in Grand Isle, a sign next to the flower-bedecked shrine to Mary at the base of their "Lafitte oak" explains that community masses were held there regularly for years, and the family still has mass there for special events (Fig. 5.9). Private shrines under oaks are not uncommon in Louisiana.

People seek out live oaks as places for prayer and reflection; many have spoken to me about the feeling of being under the trees as being different, that their awareness changes. Retreatants who go to Manresa, in Convent, or Our Lady of the Oaks Retreat Center in Grand Coteau, associate the oaks with the prayerful atmosphere of those places. Some seek out live oaks when they need comforting or inspiration. One young woman I observed in City Park, New Orleans, sitting among the roots of one of the oldest trees in the park, showed me a prayer she had written to the tree asking for its help in writing a screen play for a class she was taking at a local college (Fig. 5.10). At the Cathedral Oak in Lafayette, a young woman in the gift shop described visitors who had report religious experiences under the famous oak there. Sometimes the oaks catch people unaware. On a trip to Hammond I once stopped at the Imperial Oak. This
Figure 5.9. Private Mary shrine at live oak in Grand Isle.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 5.10. Woman seeking inspiration among live oaks of City Park, New Orleans.
enormous old tree, saved because of local pressure when a major shopping center was put in, is now surrounded by major roads and a huge parking lot. While there I spoke with a truck driver who had happened to stroll over while waiting for his vehicle to be serviced. He found himself spell-bound, standing there within the enclosing canopy, unmoving, for twenty minutes or more. He told me he had never seen a tree like this before in his life (Fig. 5.1).

Another role of live oaks is their importance in weddings. Many people want to be married under live oaks, or to have their photographs taken in front of them. Two favorite locations are the Evangeline Oak in St. Martinville and Oak Alley Plantation near Vacherie. Couples pay for this privilege, and come from far away for the event. Many other communities have their own large live oaks popular for this purpose. One young woman in St. Martinville told me how shocked she was to find that a live oak she had been planning since childhood to use as a backdrop for her wedding was cut down.

Planting live oaks as memorials for specific people has been practiced by Louisianans for many years. Memorial Grove at LSU is made up of trees planted for students killed in World War I. Few on campus know this. The grove has been the setting for student protests, flea markets and more recently for elegant crawfish boils. Each year there is a ceremony on Memorial Day. Steele Burden, the man who planted most of the live oaks at LSU was buried under a live oak. Planting a live oak is much like putting in a memorial marker, except that it is a more direct connection into the ongoing life of the planet.

Marking and Naming Trees

Even a quick examination of ceibas or live oaks in the study areas reveals that not all individuals of each species are equally valued or even recognized. Depending on location, size, region and whether or not the tree is somehow identified as important, the trees may be valued and protected or disfigured, cut or simply ignored. So while each of
the species as a whole, that is "ceiba" and "live oak" is considered important, symbolic, even sacred, this designation does not extend to all individual trees in the landscape.

Size is important among live oaks too. Small trees often are non-descript, and many people simply do not notice them at all. In Donaldsonville, an elderly man explained why there were gaps in the streets planted with live oaks. When he was young he had to spend a night in jail after he was caught breaking some of the newly planted trees, which he and some friends were doing for fun. He had no idea they were live oaks, but thought they were “pin oaks or something.” I have many times been in the company of Louisianans who are fond of their live oaks but not aware of the thousands of young trees planted in front of homes and businesses all over the state.

Signs are one way people help others recognize important tree places. Many of the plaza ceibas in Guatemala have signs that identify the tree as “el árbol nacional” and perhaps list the name of the mayor who most recently renovated the plaza. Occasionally, the marker identifies who planted the tree. An example is the ceiba at Hunapu, a suburb of Antigua, where a cement block has a permanent sign mounted to indicate who planted the tree and when (Figure 5.11). A curious variant of this is a custom of putting a list of people responsible for planting a specific tree in a bottle, and burying it beneath the tree, which I heard about several different ceibas. Trees identified as connected to historic events are often pointed out by signs, too, as is the Randall Oak in New Roads, Louisiana, where the poet is supposed to have written "Maryland, My Maryland" (Fig. 5.11).

These signs all give cultural significance to the trees—they claim them as involved in the affairs of people. A big difference between ceibas and live oaks is that live oaks often are given specific names. Ceibas are ceibas. One may be the ceiba of Palin, or the ceiba of San Francisco, but it is still a ceiba; it does not have a personal name. Live oaks, by contrast, are called everything from Evangeline or Gabriel to Pegleg or the Dueling Oaks. Naming is a way of owning, or knowing, other creatures. Taxonomists generally
Figure 5.11. Signs that identify trees. Above, the Randall oak, New Roads, Louisiana. Below, ceiba of Colonia Hunapu, Antigua. (Translation: Maximiliano Najero Mejicanos planted this ceiba in the year 1965. With love of his country and his neighborhood.)
feel better when a new species has received a proper name. Bestowing names on oaks seems another way claiming them and of relating to them on a personal level. The Live Oak Society promoted this practice—all 3000 members of that organization have received their names as a condition of membership.

Often these names reflect great affection for and personal ties with certain trees. Two fine old live oaks at Houmas House Plantation, both with formal names as members of the Live Oak Society, have a second nickname given to them by the caretaker: Pegleg and Grandmère. Pegleg got his name after dropping an enormous branch one day, barely missing a group of elderly ladies who had just finished having mint juleps on the lawn. The caretaker spent days cleaning out the tree's rotten trunk to slow down further decay. He and his wife stayed up watching Grandmère during Hurricane Andrew in 1991, worried she might lose a branch (Craig Black, personal communication, February 24, 1995). In Old Lewisburg, not far from the Seven Sisters Oak, is a tree named the Grandberry Oak after its previous owner. It too lost a limb, which fell the same day Dr. Grandberry died, a story repeated in the local newspaper and by the current owners (Orso, 1990:97). From Hammond, I received a letter describing how a young girl wrote letters to a live oak she called Okie. Her parents would hold her up to put her letters in the tree, and would write answers to her which she later collected from the same hollow.

These are not isolated stories; many such close and personal identifications with live oaks exist in the state and throughout the Gulf Coast region. They indicate a relationship with the trees very different from that Guatemalans have with the ceibas. Ceibas are more aloof, less personal. There is more formality in relationships with them. Perhaps they are still more closely tied to the World Tree, or perhaps it is in part that they are not physically as inviting. There certainly are fewer chances for the kind of personal, intimate interaction with the trees since they are almost always in public settings.
Problems/Danger

Associations with ceibas and live oaks are not uniformly positive. Sometimes the trees are seen as dangerous to people. I was told by an agricultural agent that the ceiba in Escuintla had been cut because it had dropped a branch, killing ten people. In Palin several people mentioned that the tree had once dropped a huge branch, but that nobody was hurt. Live oaks, too, have such stories. Old Pegleg, the tree at Houmas House mentioned above that just missed flattening the mint julep party, is one example. This sudden shedding of branches mystifies people, and some find it scary enough to avoid having the trees around, though most tell stories of how the huge limbs miraculously harm nobody. Fear of damage during hurricane winds has led some homeowners to trim or cut trees near their homes. Those fears are generally unfounded (unless the limbs are damaged or rotten), but in some cases they are justified. At Louisiana State University, for instance, those in charge of the trees on campus are concerned about possible injuries from the trees dropping limbs, as the trees have not received sufficient care for some time due to lack of funding.

Low growing branches of live oaks in public places are sometimes feared as hiding thieves or others engaged in undesirable activities. Memorial Grove, the stand of live oaks next to the Student Union at LSU, has some of the oldest and largest live oaks on campus. Some years ago, the story goes, the president of the University ordered them trimmed up, and lower branches some reaching down to the ground, were removed to allow a clear view. The motive, reportedly, was to make the area safe, but the other story is that too many courting couples were using the private spaces among the trees. Courting under live oaks is a long tradition that continues. When Steele Burden was to be photographed under his namesake oak, which also has branches that reach the ground, he said they disturbed at least three couples (Steele Burden, personal communication, January 13, 1995). Often during my fieldwork, I noted romantic scenes by the trees, both ceibas and live oaks.
Both trees have been used for deliberately violent acts and some retain the aura of death. Certain live oaks in the South are known as "Hanging Trees," associated with lynchings. When I asked local people about the Stonaker Oak at Point Coupee, one mentioned its connection with hangings in a whisper. An African-American woman, a native of Louisiana, said the trees made her sad because of this connection. The ceiba of Palencia, Guatemala, was known as the tree in which the head of Serapio Cruz was hung. The tree is no longer there, but the story is still repeated. Other ceibas have reportedly been used for executions.

Snakes, generally considered dangerous, are often associated with the trees. According to a Guatemalan anthropologist, Alfonso Arrivillaga, there is a ceiba in Livingston, a Garifuna town on the Atlantic Coast, that is said to have a large snake living in it. Several people mentioned snakes falling out of the ceiba of Amatitlán when it was being taken down. The Palín tree also has snake stories. One of the vendedoras said a few small snakes had fallen out a year or two ago. One woman in Louisiana reported that she did not sit under live oaks because snakes might fall on her. Although she was the only one to voice this fear about trees on dry land, another person mentioned that when picking Spanish moss in the swamps, snakes were a common hazard.

Supernatural fears were mentioned occasionally. In Louisiana, some ghost stories are told in connection with live oaks, and each year at Halloween, children are invited to hear spooky tales told under the old live oaks at Shadows-on-the-Teche in New Iberia. The old tales of the X-tabai, the woman who lives in the ceiba and lures men to their death, was unfamiliar to Guatemalans I met in the highlands, though Francisco, my guide at Tikal, had heard of her and in Mexico's Yucatan region she is still said to lurk at night.

Variations in Interaction

Within each region, interactions with the trees vary tremendously, so that it would be difficult to make any reliable generalizations about all Guatemalans and ceibas or all Louisianans and live oaks. My observations suggest that individuals vary much
more in how they perceive and engage with the trees than do members of different culture groups. I believe this reinforces a larger issue within the topic of nature-culture relationships.

For example, if one looks at the distribution of live oaks in Baton Rouge, it would be possible to conclude that whites prefer live oaks, while African Americans do not. My own conversations and observations suggest that the situation is much more complex, involving cultural, economic and personal variations that do not allow for generalizations. Kathy Hendrick, who started an African American museum at Texcoco Plantation, says the live oaks often make her sad, reminding her of hanging trees in the south, but she doesn't hate the trees for that. Neither do other African-Americans who grew up playing under the live oaks in their yard, or wishing they could have one for a swing, or who plan to put some in their front yard. As a general rule, any people (black or white or any other color) with limited land and the need to grow food, or limited resources to care for a large tree that requires pruning, do not choose live oaks to plant. Preferences for live oaks in the yard are likely to be related to socio-economic conditions more than racial-cultural group membership. But even in this, I would hesitate to generalize. Individuals vary in their beliefs and attitudes. The woman mentioned before as afraid to sit under live oaks because snakes might fall out was African-American—but she is the only one who ever mentioned this possibility. It could be a culturally transmitted belief, or it could be her own private fear.

In Guatemala, it would be tempting to assume that anyone identified as Mayan would be more likely to feel reverence for ceibas than non-Mayans, yet my research suggests this is simply not true. The term Maya, as noted before, is one that covers a wide geographical and temporal range. Today's Maya, depending on where they live, may never have come into contact with a ceiba. In the highlands were some who had no idea what a ceiba tree looked like, and some knew it only as the national tree. The same was true among non-Mayans, though almost all who have attended public schools since
the 1960s have an idea what it looks like and that is has been a sacred tree in the past.

Yet even among the educated, there are major differences in awareness of the trees, as indicated by my Spanish teacher Juana's enthusiasm and knowledge of the trees compared to another teacher that walked by a ceiba every day and had never noticed it.

Any generalizations about attitudes toward live oaks based on cultural groupings are likely to be contradicted by individuals; the combination of basic human instincts regarding trees, the experiences people have had in relation to trees growing up and new insights as adults all can easily override any attitudes defined as culturally transmitted.

The LSU campus is a good example of how the same apparent place is in fact many different places because of how people respond. Live oaks exert important influences on behavior, whether or not people are consciously aware of them. In the quadrangle, in front of the library, where over the last 40 to 50 years live oaks and other trees have transformed a dusty, hot sunny area into a cool, shaded refuge, students sit on benches to study or pause in groups that cluster under trees to talk between classes. Walking routes through campus often follow oak-shaded sidewalks, and parking spaces under the trees are at a premium all over the campus. To members of the administration the oaks are part of the University's image and at the same time a problem, because it takes money to care for them. Randy Harris, who has that job, is so attuned to their needs and problems that he watches them constantly for signs of stress and winces as he sees students absentmindedly walking right by signs asking them to please not trample the roots. He and others responsible for landscape maintenance know the trees individually, and have sadly watched them decline for years, unable to get funds for the unglamorous work of soil improvement that would save many from dying. Some members of the faculty are strong advocates for the trees and defend them vigorously whenever they are threatened by new building plans. Others on staff have surprisingly strong emotional attachments to certain live oaks, mourning those inevitably cut as
buildings grow. The acorn drop is mostly of interest to the squirrels, but one fall I found Korean women gathering them to make acorn jelly, a traditional delicacy.

A new program to raise funds for tree care takes advantage of the connection people can feel to individual trees. For a donation of $1500 to $5000, people can endow a specific live oak on the campus. As of late 1996, 33 to 35 of the 1050 live oaks on campus had been endowed. The chosen trees tend to be the most attractive, healthy specimens, which are actually not in need of help, and the money goes first to the special plaques that identify the donors, and to make sure the chosen trees are properly mulched and groomed (Phil Thompson, personal communication, November 26, 1996).

Eventually the program should generate funds for the less attractive, stressed trees that actually need help. In the meantime, it emphasizes the different ways people have of interacting with the trees, and how affection and concern tends to be much stronger in relation to specific trees, generally large and healthy ones, while the many smaller, often stunted trees get little or no attention.

From time to time someone achieves notoriety for their apparent hatred of trees. The most famous attack on a live oak in the South is that on the Austin Treaty oak in Texas, which inspired heroic efforts to save it. Louisiana live oaks have also suffered these apparently strange events, including the trees in front of the courthouse in Abbeville, and the original Evangeline Oak in St. Martinville, back in 1902. I believe these are not acts against trees, but rather a way to hurt the people who care about those trees. Considering the amount of emotional and symbolic significance of trees in human life, what better way to damage a community's sense of identity and place. A building can be rebuilt in a relatively short time, but a large old tree will take more than a human generation to regrow.

**Effects on Trees**

From the point of view of ceibas and live oaks, their relationship with humans has certain benefits and drawbacks. As noted before, there is inevitable tension when a large,
constantly changing organism comes to live within the built environment. Over the course of one ceiba or live oak's lifetime, many generations of humans will interact with them, and the most consistent trend is toward increasingly denser settlement. Besides the inevitable crowding that results, there is the factor of humans wanting to interact with the trees for different reasons. Some of these are helpful, others harmful.

Control of Tree Reproduction

Digging trees up in the wild is an ancient practice. Both ceibas and live oaks have long been brought into cultivation this way, and introduced into areas they would never have reached on their own. Most planted ceibas in the highlands, for instance, come from the coastal plains around Escuintla. Live oaks, too regularly get moved around in the American South. People have told me about live oaks they brought from Texas to St. Francisville (which were probably Texas live oak, *Q. fusiformis*), from Mississippi to Church Point, from Grand Isle to other parts of Louisiana, and many from nearby forests to home and public properties within the state. Moving young trees of either species is not difficult; both have high survival rates.

Nurseries are another source of young trees, though there are strong differences in how ceibas and live oaks are grown and sold. When I visited a nursery in Siquinala, Guatemala, there were only two ceibas for sale in February. Both were self-seeded trees that workers had dug up and potted in plastic bags (Fig. 5.12). At almost one year of age, they were almost 2.5 meters (8 feet tall). Very few people buy them, I was told by the nursery owner, as they come up everywhere on their own.

By contrast, growing live oaks for sale in Louisiana is a highly managed big business. At Live Oak Gardens Wholesale Nursery at Jefferson Island Joey Billeaud, in charge of growing nursery stock, told me that until recently he was selling 100,000 trees per year, all started from acorns (Fig. 5.13). He gets acorns from a row of planted trees that line the approach to Live Oak Gardens, preferring to collect from what he considers good-looking trees (though he has no proof that such efforts matter much, given that the
Figure 5.12. Young ceiba for sale at nursery, Siquinala.
Figure 5.13. Joey Billeaud with live oak nursery stock, Live Oak Gardens.
flowers are open-pollinated). As the young trees grow he grooms them to a "lollipop" shape—a long single stem up to seven feet tall with a burst of growth at the top. It is a time-consuming task. Landscapers want upright-growing trees that are suitable for street plantings, and for lawns that must be mowed.

Big nurseries like Live Oak Gardens play an important role in the dissemination of live oaks. The trees from Live Oak Gardens are sold all over the South to nurseries who eventually sell them to homeowners. Thousands of the trees used to go to Florida, where they seemed to believe Louisiana live oaks were superior to the local trees. They still ship to Texas. Genetic stock from one group of trees in Louisiana is thus achieving a wide distribution, although in some years, when there has not been a good crop, they have obtained seed from a nursery in Alexandria.

Family connections are important in the South, where tracing descent is a common preoccupation. Not surprisingly, this is true when it comes to trees. Live oaks famous for their size or historic importance are often chosen as seed sources, so that their gene pool is much more widely spread than it would be without human intervention. The Friendship Oak of Mississippi, for instance, was the source of hundreds of thousands of oak seedlings given away in 1973 for replanting after Hurricane Camille struck the Gulf in 1969 (Haines 1973). More recently, the American Forestry Association has been selling seedlings of the Seven Sisters oak in Mandeville, Louisiana, the current president of the Live Oak Society. Purchasers receive a certificate vouching that this is a direct descendant of Louisiana's champion tree. In St. Martinville there are plans to sell seedlings of the Evangeline Oak.

Also important, and hard to overestimate, is the role of individuals in disseminating live oaks. Transplanting or planting live oaks from seed is easy and many individuals do this all the time. But a few have had a tremendous effect, planting literally hundreds and even thousands of trees. Steele Burden is one of the best known live oak enthusiasts in Louisiana. During his lifetime, he planted thousands of trees in Baton
Rouge, as he designed landscapes for private and public places. Burden developed and gave LSU the Rural History Museum, where he was still planting live oaks just months before his death in 1995. In the 1920s he planted live oaks in Baton Rouge's City Park (digging them up in the wild), then went on to become groundskeeper of the new LSU campus. Between 1932 and 1970 he planted at least half of the 1052 live oaks that have transformed the campus from an open, mostly treeless field into today's urban forest.

Why live oaks? In an interview a few months before his death, he said, "Because they're the most beautiful things in the entire South." What delighted him most was the one tree on campus that has been allowed to grow in its natural shape, so that its branches touch the ground. "I can't believe I planted it" he said in wonder of the tree on Nicholson Drive that was named after him in 1995. He could not recall there being many trees of this size in the state. In speaking of his life's work in various interviews he often mentioned his desire to leave the world a better place. Planting trees was part of this drive. "If you leave one thing in your life," he told me, "leave a live oak. It will live to be 500 years" (Steele Burden, personal communication, January 13, 1995).

Pruning

Pruning is the deliberate removal of branches from growing trees, done for a variety of reasons. Often it is to keep branches from interfering with buildings or structures, or to remove dead limbs that are a hazard to both people and trees. More deliberate early pruning can shape trees to a desired form. When trees provide crops, pruning can increase yields, but since neither live oaks nor ceibas are grown for fruit, any deliberate cuts are made for other reasons. Both species respond to pruning by resprouting, so they are well-adapted to this kind of deliberate shaping, a trait not shared by all trees. It is another reason they have adapted well to life with people. Humans feel a need to engage with the trees; helping to direct their growth is one way to accomplish this. There are significant differences between the role of pruning in Guatemala and Louisiana, however.
In Louisiana today, pruning live oaks is an important activity and the basis for a significant industry. Various styles exist, and there are differences of opinion on how to best shape the trees and how much upkeep they need. In urban situations, allowing trees to assume their natural multi-stemmed, drooping, fountain effect with branches touching the ground, is often not practical. Along streets and in relatively small lots there simply is no room. So, having chosen live oaks to plant because of their unusual growing pattern, people then try to coerce them into behaving like a standard, single-trunked shade tree with a wider than usual crown. The process begins in the nursery and continues through the trees' lives. Lower branches must be removed, and as the tree matures, and limbs begin to reach for the ground, they too are trimmed, forcing long horizontal growth. If they insist on continuing downward, people will prop them up, using wood or metal supports. A popular style of pruning requires the crown to consist of long bare limbs, with all twigginess removed to show off the sculptural quality of the tree. Such trees are beautiful and have the added advantage of letting light through to the lawn below.

But keeping this up is time consuming and expensive, since few homeowners or even town park departments can afford to keep the equipment required to get up into the crown. In the United States there exists a whole class of people whose job it is to care for trees, especially big ones. Arborists, arboriculturists, urban foresters, tree companies, the yellow pages of phone books are filled with names of people and companies that care for trees. While some of those doing tree work are skilled at it, many do not have any training other than using power tools and a range of equipment for getting into tree tops that is impressive looking and very expensive. Anxious to make a living, or perhaps convinced that the only good tree is a trimmed one, they often recommend extensive pruning that is entirely unnecessary. For homeowners with live oaks, the cost of keeping them pruned is a major expense.

A different approach is being touted by proponents of a more "natural" style of pruning. They believe the extensive trimming of interior growth can stress the tree and
that the best course is to limit cuts on a grown tree to removal of dead, crossing or
diseased limbs, allowing the tree to develop with minimal interference. Instead of the
sometimes elaborate efforts to "help" trees used in the past, the idea is to let them be and
give them conditions as similar as possible to those in the forest (reflecting, perhaps, a
different attitude toward nature). But twiggy growth inside the canopy looks messy to
those accustomed to long bare branches, just as Spanish moss once upset those in the
nineteenth century who wanted clean tidy trees. Conflicts thus result and can become an
issue at places like LSU where live oaks are so prominent.

The situation with ceibas is entirely different. Hardly anyone talked about pruning
ceibas, and there was no evidence of specialists who cared for them. But I was puzzled
about why ceibas in the wild tended to be tall, while those in plazas were almost always
broad and spreading. Since there are tall forms growing in open situations, it cannot be
only light conditions that make the difference. Careful inspection of trees pointed out a
pattern of damage to the growth point of a many plaza trees. The tree at Palín does not
exhibit the regular three-whorled branching pattern of younger trees. Neither does the
ceiba at San Francisco. In Jocotenango, the man who had planted a ceiba in front of the
church 12 years ago, pointed out that some vandals had broken the growth point, so that
it would not get taller (Fig. 5.14). Unlike the live oak, the ceiba does have a dominant
central leader that suppresses the growth of side shoots. Its job is to grow straight up. If
it is damaged, horizontal branches have a chance to elongate. This kind of damage could
account for the difference in growth forms of ceibas in plazas, and the people of
Jocotenango may someday be grateful to that person that pruned their tree. Francisco,
my naturalist-guide at Tikal, said that of course people pruned ceibas to make them
spread out for shade, but he was the only one to suggest that. Most had never thought
about the difference between wild and cultivated trees, and if they did figured they were
just different. Genetic differences may also exist, of course, and perhaps soil conditions
Figure 5.14. Ceiba in Jocotenango with man who planted it, showing growth point removed by vandals.
can affect growth patterns. But pruning by people or damage to the single, exposed plaza trees from wind or lightning are likely reasons for their growth pattern.

The contrast with live oak is strikingly ironic: one tree wanting to grow down to the ground and continually lifted up through the efforts of people, the other wanting to reach for the sky and forced to branch out. The amount of resources invested in the trees also varies as does the extent to which people have ideals of how the trees should look.

**Structures and Other Ways of Containing Trees**

Two ways of integrating these trees into the built environment are whitewashing and building structures around them. Both ceibas and live oaks sometimes have their trunks painted white or, in the case of ceibas, other colors. The reasons for whitewashing mystify many modern observers. When asked why they do it, people often say it is to keep pests from crawling up the trunk. There is some logic to this, since some species of trees have traditionally been covered with a lime-based whitewash that does repel crawling insects. However, today people tend to use white paint, which has no such effect. Another legitimate reason to paint trunks is to prevent sunscald in species with tender bark like citrus, but this is not necessary for either live oaks or ceibas.

I believe whitewashing has more to do with integrating the trees into the built environment. For ceibas this is generally accepted as appropriate. Throughout Spanish Middle America, trees in parks are often whitewashed. It gives a uniform, cared for look to the plantings, blending the trees into the structured, built environment. Ceibas in plazas or along the roadside sometimes sport a number of stripes of different colors, most often white, blue or red (the colors associated with the major political parties of Guatemala). Sometimes this helps with visibility, especially along roads at night. It requires a considerable investment in time and money to keep that up.

On live oaks, on the other hand, whitewashing is a controversial topic. Some consider it tacky. One of the rules for members of the Live Oak Society reads "Members shall not be whitewashed," and violators are subject to expulsion. Apparently in the
1930s whitewashing live oaks was more common; even the Cathedral Oak, now Vice President of the Live Oak Society, had whitewash on its trunk in a photo taken in 1935 (Stephens 1935). Most whitewashed live oaks I have seen in the 1990s are in Cajun country, so this disapproval of the practice by Stephens’ organization may reflect some social distinction. Cajuns with whom I have discussed whitewashing remember painting the trees with their fathers, and that the effect was "neat." Most have given the practice up as too time-consuming, though every so often one can come across homesteads with meticulously whitewashed trees. In southern Texas is a plaza planted with white-washed live oaks, a blending from Anglo and Hispanic styles (Arriola 1993).

Another practice is building cement structures around the tree, something more common around ceibas than live oaks. In Guatemalan plazas, there are examples of many kinds of structures, from a simple circle or rectangle of cement border, slightly raised above the surrounding ground level, to elaborate tiers of steps and walkways, some even covered so that people can sit there when it rains (Fig. 5.15). The results, for trees, are mixed. While the structures succeed in keeping people and trees separate, neither harming the other directly, the trees are forever breaking through. The children of Palín and San Francisco Petén were delighted to show me the power of tree roots to break these cement containers. If placed there early in the trees' life time, these raised beds are probably not a problem, but if they are put in when the trees are well established, disturbing the roots and covering them with extra soil can lead to stress and even death. An old man in Los Mixcos told me he had helped build such a structure around the famous tree of Palencia, and wondered if it had helped kill the tree.

In Louisiana, live oaks are less frequently surrounded with raised cement planters; more often they are fenced or given wooden barriers (Fig. 5.16). But projects like the park around the Evangeline Oak can cause serious damage, and many trees suffer from constantly encroaching pavement for sidewalks, streets and parking lots.
Figure 5.15. Elaborate structure around ceiba of La Democracia.
Figure 5.16. Wooden structure around live oak in Hammond.
Because so many trees are planted along streets, their roots often heave the sidewalks, so that costly repairs are often part of having a beautiful canopy overhead.

**Threats to Trees**

Life with people has its ups and downs for live oaks. On a generous lot, like a plaza, park or large backyard, the trees' roots can spread out to support the huge above-ground limbs. In such situations conditions can be better than in the wild, allowing the trees to develop a fine balanced shape. Crowding, however, changes the situation drastically.

Damage to roots restricts growth, shortens life, and encourages diseases. Conventional wisdom holds that tree roots extend as far as the drip line (the edge of the canopy), but more recent findings have shown that live oak roots can go two and a half times that distance away from the tree. The most important roots are not deep in the ground, but in the top 30 cm (12 inches) of soil. Digging up areas to work on water lines or new sidewalks, even outside the drip line, cuts off nourishment to parts of the tree and can cause permanent damage. Compaction of the soil from car, foot or machinery traffic results in poor aeration, another way to kill roots. In the wild, trees generally have a generous covering of organic matter that moderates temperature and moisture, and creates conditions that allow for good aeration. Bare trampled soil or plantings that compete with tree roots both cause problems. The damage takes some time to become evident, and often shows up as a gradual death of limbs on the side where roots were damaged. On the LSU campus, for instance, which is dominated by live oaks, a survey conducted in 1995 showed that of the 1052 trees alive then, 151 were under severe stress and likely to die, 462 were suffering moderate stress, and 439, less than half, were healthy. Since then several have died and may be lost at a rate of about one per month (Thompson 1995).

Planting patterns can also challenge trees' survival skills. Because ceibas are planted singly in large spaces, they generally have enough above-ground room to grow.
But live oaks planted in groups or rows in more settled areas can end up too close to each other, or too close to buildings. Their branches, growing outward, interfere with windows, roofs and wires, and often are lopped off. Their roots, searching for moisture and nutrients, are often crowded, leaving the tree undernourished and unstable, and endangering nearby walls and pipes (Fig. 5.17).

There is considerable difference in the amount of care given to each species. Live oaks often are given special care, especially on home properties. Watered with the lawn, fertilized and kept free of dead branches, these trees often thrive. Towns and cities in Louisiana are beginning to institute urban forestry programs designed to care for the trees. Many specialists in tree care advertise their services to help owners of old trees maintain them in good health. I saw no evidence of such care of ceibas in Guatemala; my impression is that the trees are largely on their own. When I asked residents about who cared for the tree in Colonia Hunapu, Antigua, they shrugged and said "Dios cuida a la ceiba" (God takes care of the ceiba).

Sometimes threats to the trees are more direct.

Help! I was a Live Oak tree who was murdered and dismembered recently by members of the LA Highway Dept. I lived along the side of Highway 16 north of Watson for several hundred years. However, last fall someone decided to do away with me, my parents, brothers, sisters, aunts and uncles. Whoever was responsible for this mass murder needs to be hanged from one of my survivor's limbs.

I received this letter after an article on my research appeared in the Baton Rouge newspaper, The Daily Advocate. Two groups are notorious for threatening trees in both Louisiana and Guatemala: highway departments and utility companies. They play an enormous role in the creation of urban landscapes by removing many big trees and by disfiguring others.

Few of the 5,000 live oaks counted by Dr. Stephens on the Old Spanish Trail in the 1930s remain. Road widening, damage and pesticides have destroyed many. Others succumb to an innate need of highway departments everywhere to straighten roads. Big
Figure 5.17. Live oaks under stress. Above, crowded conditions on street of Donaldsonville. Below, trees in parking lot on LSU campus.
trees are seen as obstacles to visibility, and sometimes are practically accused of causing people to crash into them. In towns all over the state people tell stories of trees that have been taken down in spite of objections.

Sometimes there are understandable reasons for removing live oaks. In Donaldsonville a large old tree close to the road was taken down because, after road widening, its trunk projected into the street and it was "causing" accidents. Fear of lawsuits has prompted the highway department to remove trees from near the highways, often trees planted there in earlier years to beautify the roads. Live oaks are not among the trees approved for such plantings today. It seems that the faster people travel, the more trees recede from the travel route. They become less and less significant, too. In the context of major highways, even large live oaks are small. The Imperial Oak in Hammond, for instance, an enormous tree with limbs that form a vast network, and deep cool shade, and which would have stopped anyone traveling by on foot or horse, or even a slow car, now sees thousands of cars rushing by, coming off the Interstate, without so much as a glance.

In Guatemala, too, there are resentments over trees being cut. Alcaldes, the mayors, were often cited as the ones who decided to cut the old ceibas in the plaza, usually to renovate the area and make it more modern. The newer plazas tend to have plantings of many smaller shrubs, trees and flowers, arranged in rows and geometric patterns. Highways are blamed for loss of ceibas. Older residents of the Pacific Coast say there used to many more giant ceibas in that region before the highway was put through (Edgar Geovany Mendoza, personal communication, July 11, 1994)

Utility companies are the other major threat to trees in cities. In Baton Rouge and New Orleans are many examples of live oaks that have been pruned severely to make sure their limbs do not interfere with overhead electric lines. Some become U-shaped trees, others are one-sided or have chunks taken out in various places. On my second trip to Guatemala, going back to two ceibas in San Juan del Obispo, I found both
had had their growth points hacked from under utility wires. In Louisiana, outrage over such brutal practices, which can ultimately cause serious damage to the trees, has led some citizens to demand a change in policy. In the town of Hammond, for instance, some townspeople threatened to sue the electric company, then negotiated for a trained arborist to assist in trimming trees for wires. They have also managed to show the utility officials that live oaks, when pruned properly, are not a threat to wires, and are preferable to the small species sometimes promoted for planting in cities.
CHAPTER 6: NATURE, CULTURE AND BIG OLD TREES

My last glimpse of Palm's ceiba was late one afternoon in July of 1995. It had rained and many of the stalls were packed up in blue plastic, the north side cleaned of all the day's accumulated vegetable debris. After saying good-bye to my young friend Carlos and taking a picture of the two women who befriended me, I went off to catch the bus, noting on the way out of town that the local chapter of Alcoholics Anonymous is named after the ceiba. Written in my notebook were the tree's official measurements: 10 meters (33 feet) in circumference, making it almost .6 meter (2 feet) larger than it was 14 years earlier, when another North American visited (Haller 1985), a growth rate of 4.5 cm (1.75 inches) per year. Through all the hunting for historic records I never found out when it was planted, but clearly it is still growing vigorously. The tree defied my attempts to capture it on film. Perhaps that is because it is not a tree alone. What makes the Palm ceiba so vivid is the combination of sights, sounds, smells and people that together with the tree create this place.

The landscape of trees tells a complex story. Big old trees do not appear in the cultural landscape randomly. Their presence is an expression of both natural and human factors—they had to get there, find a suitable habitat, and manage to survive in the midst of human activities. Each species that does occupy a prominent role gives structure and meaning to the landscape by helping shape the nature of places, and acquires symbolic meanings through the years. My study of ceibas and live oaks suggests that understanding more about the role of big old trees can deepen our understanding of landscape meaning and development, the study of place and the interaction of what we call nature and culture. While the material aspects of the landscape related to subsistence and other economic factors are an essential aspect of geographic studies, some of the most interesting insights may come from considering interactions with trees valued for aesthetic and symbolic reasons.
LANDSCAPE

Large trees in the landscape act as reference points, guides for movement through both settled and unsettled areas, boundary markers, and indicators of important places, public and private. Unlike buildings, they grow as they get older, often changing in unexpected ways. Their roots and branches can extend enormous distances, interfering with other plants or built objects. Often paths, roads and settlement patterns adjust to the presence of big trees.

Because of their age, big old trees add a time dimension to the landscape. Their tissues record past climate and vegetation patterns; they are historians to be interpreted. They also represent the human past, acting as a bridge to former ways of life, events or people. Because they will survive into the future, outliving many human generations, they are memorials, able to communicate to future generations that certain places, people or events were important. Inevitably, they gather about them myths. Historic events are relocated in their shade and mythical figures associated with them in various ways. It is as if they have always been the size and age they are now, witnessing the lives of many human generations.

Different species have distinctly different characters, which influence both their ability to become established as long-term residents of the cultural landscape and in humans' decision to allow them survive. Their physical characteristics of shape, size, branching pattern, kinds of leaves, seasonal variation and scents are part of this; so are their ecological and reproductive strategies. Character also depends on the responses of the people around them, who assign certain emotional and symbolic values to them that can vary from one region to another, among the same groups in one region, and through time. Individual members of some species are also valued for their different characteristics and personalities.

One of the ways people announce to each other which places matter is through the placement of specific kinds of trees. They use large trees to mark the center of a
place, or its periphery, the entrance or the roadway leading from one place to another. Particular species are deemed appropriate for courthouses, plazas, churches, schools, roadsides, parks and homes. Because the trees change as they age, contemporary images may have little to do with the intentions of past generations that planted them. Sometimes it is the trees that have taken over, become the important place, while the human built structures have fallen to ruin or simply disappeared.

The trees in highly symbolic places tend to be surrounded by distinctive structures. Walls, fences, benches and complicated cement or wooden structures either keep people away from them or invite them to explore the trees further. This varies by species—some trees get more attention than others, or are more protected, surrounded. Where these structures are and how they shape interactions with them gives important insights into relationships with the natural environment. What message is being conveyed to children at schools who may no longer climb live oaks but are given steps to platforms surrounded by rails to keep them and the tree safe?

Exploring the evolution of tree symbolism deepens our understanding of how the landscape evolves. As this study has pointed out, current images reflect many factors. Among them are the persistence of the ancient role of trees as symbols of the center and cultural diffusion of beliefs transferred to new species. They evolve in response to changes in relationships between trees and structures as the trees grow and to the power of poetry and story-telling in shaping meaning. This is a dynamic, constantly changing aspect of the landscape, in which both cultural (people) and natural (trees) factors play an important part. Because trees are such powerful symbols, certain groups have used them to their advantage, either consciously or unconsciously. Yet to equate the trees with only these images is a mistake. They derive their effectiveness from the deeper and more multi-layered meanings. Humans have been interacting with trees and talking about them for as long as we have evidence of language; relationships and meanings are not fixed, but constantly evolving.
PLACE

Big trees change the microenvironment dramatically, especially in hot climates. Different species do so in characteristically different ways. The sound of wind in pines is different from that in maples or poplars; the quality of light under a live oak is different from that under a magnolia. For many species it varies by season. Their shape and branching pattern have an effect on people. Can you climb into them or not? How do they smell? Is the bark interesting to look at? At both the conscious and unconscious level, people respond to these variables. Elms along a street created a series of columns with their tall trunks, and a high canopy of shade. Live oaks, by contrast are like sculptures with their low dark branches that invite gazing or climbing. They also can be oppressive in winter, holding the damp air.

It is hard to overestimate the role of shade in the experience of place. Islands of shade in a hot climate are crucial. At a biological level big trees thus provide something essential, a place of comfort, relaxation, rest, a place to interact with people away from the bright glare of the sun. Shade can also suggest danger. Both ceibas and live oaks are from tropical and subtropical climates. What of the far north? The desert? Which trees are symbolic or sacred there, and how does that affect important places in the landscape?

Studies of place focus on what people are doing in the landscape in addition to documenting the presence of landscape elements. This requires time, since so much activity is cyclical and intermittent. My own observations around ceibas and live oaks suggest the casual observer could entirely miss the significance of certain tree places by arriving there at the wrong time of day, or year. Unlike buildings that announce their function with signs or other devices, trees may not give much of a clue. The Gossip Tree in Golden Meadow might have aroused my interest had I seen the chairs under it, but I would probably have dismissed it as another family place. At Palín, I was so focused on the market that I did not notice the basketball hoop or the pigeon house until they were pointed out to me. Ethnographic methods, including careful recording of the physical
environment, periods of observation, historical research and interviews are the only way I know of to learn about these topics. With trees, it also means understanding how they grow, their way of life. Places change. Some activities challenge the commonly accepted meaning of a place: students holding protests or rock concerts in the Memorial Grove at LSU and soldiers walking through the market at Palin are examples.

Words have the ability to call places into existence, and these places can then become symbolic images, as happened with the Evangeline Oak. What will happen when the Evangeline Oak dies? When the first Evangeline tree was massacred, they chose a different tree. But today this tree has become holy ground, and all efforts are focused on that place, that specific live oak.

Big old trees are widely appreciated as places for social interaction and for private contemplation and worship. These are all powerful, positive associations that promote creative interaction. The negative associations are fewer, though equally powerful, most often connected with violent death. Their connection with places like schools, churches, cemeteries and town centers, all places where ideals of perfection play a role has to do with their ancient role as the axis mundi, where communication with the gods was possible.

**DOMESTICATION**

Within the language of human-plant relationships, there is no generally accepted term that describes the relationship between big symbolic trees and humans. They are not domesticated, in the sense that they have been genetically altered or selected. But neither are they truly wild, since most are often altered significantly by human actions and many go through their entire life cycle within the sphere of human control. It would be easy to conclude, looking at the sad state of so many ceibas and live oaks in cities, that humans are only problems for these species. Living in compacted soil, with access only to polluted air, subject to cars bashing into them, and vandals carving their trunks and ripping off branches, these trees appear to be surviving in spite of humans. But these
examples describe the experience of trees in modern urban areas, a relatively recent phenomenon. For much of history, the relationship was different. Both ceibas and live oaks have benefitted from human disturbance, and from the protection afforded these symbolic trees. It allowed them to expand their range and to develop into full grown, balanced specimens, free of competition from other tree species. Because of their symbolic significance to humans, their cultural importance, they were protected, by custom and by law.

Rindos's "specialized domestication" to some extent covers this, but it still implies utilitarian concerns as motives. Mutualism, a term that describes cooperation between two organisms, both of which derive benefits from the association, perhaps comes closest to being an appropriate term. One writer in the nineteenth century even described the relationship between people and wheat as mutualistic (Sapp 1994:30). However, in recent years the term has been used primarily within biology. Rather than introduce a new term, I would agree with Bennett (1987), who in assessing definitions of domestication concerned with animals, concluded that the distinction between domestic and non-domestic species does not make sense. He pointed out that animals managed in game parks are not exactly wild, yet cannot be considered domesticates either. The same applies to tamed animals, wild creatures brought into the domestic household.

Motivation and the nature of the interaction are important. Trees like the ceiba and the live oak are much like the animals mentioned by Bennett, taken into the domestic setting for non-utilitarian, emotional reasons. Although still present in the wild, both ceibas and live oaks have an intimate connection with humans, who have altered their habitat and provided them with specific niches within the cultural landscape. People create certain forms or images with the trees that become characteristic of regions, places or times. Pruning, either deliberate as with the live oak, or inadvertent as appears to be the case with the ceiba, is one example. The trees in turn provide places where

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
important human events take place and become symbols, part of the identity of cultural groups.

There are other examples of trees with such ambiguous relationships with humans that would be interesting to study. The baobab of West Africa is both useful and symbolic and has a strong association with human settlements, though how it becomes established there is not clear. The ginkgo escaped extinction mostly because it was protected in Chinese temple gardens until the nineteenth century and has since become an incredibly popular ornamental, expanding its range throughout much of the world with human help. Sugar maples in New England have long been managed for syrup production but also have a strong symbolic role in the region; their brilliant fall foliage draws thousands of visitors each year and many mark homesites. Lindens and sycamores are important trees in cities of Europe, and the sycamore fig has long been sacred and ornamental in Egypt and other Mediterranean lands. Beeches and oaks of England and Ireland are important symbols of village life and have connections to ancient sacred traditions. In India, China and other Asian lands, members of the genus *Ficus*, such as the bo and bhodi trees under which holy men and women meditate, have long been important places in the landscape, considered sacred. The *ombú* of Argentina, also known as the traveler's guide, is a long-lived tree of the pampas that is probably planted by people. Breadfruit trees, so common in tropical areas once controlled by English colonists are another tree whose significance in the landscape is worth investigating. Almost any region of the world has its examples of important and often sacred trees that characterize the cultural landscape, and with which people have been interacting for hundreds, possibly thousands of years (Altman 1994).

The crucial concept here is relationship. Domestication, as it is generally understood, suggests subordination, control, genetic change of the species in question. But this is only one way of considering the interaction. Every day, we are acting out our relationships with a vast number of species in forest, city, flower shop and home garden.
Proponents of the biophilia hypothesis talk about the innate need people have to affiliate with other life forms. Studies have shown that people who have a view of trees from their hospital window recover more quickly from surgery (Ulrich 1984). Others have found evidence that in tense urban neighborhoods trees and other plants can build a sense of community (Heerwagen and Orians 1994). The trees also play an active part in these relationships. Sometimes they benefit from human actions, and they alter the human environment in which they live.

My research with ceibas and live oaks suggests that they occupy such prominent roles in the cultural landscape in part because of their wildness, their untamed nature. No matter how much trouble they cause to pavement and wires, people still insist on having them right in the middle of their built environment where they can see and touch them. I have also found that we do not understand well how to live with these big trees. If we are to continue to have living examples of this life form that has helped us communicate and make sense of life since the beginning of language, then we need to better understand how to exist with them in our cities and how to allow them to be part of the rural scenes as well. Home, travel, community and contact with the sacred will be drastically altered without big trees. Enlarging the focus of domestication studies to include this vast array of relationships is key to learning more about these interactions.

**Nature and Culture**

Many think that we are living in an age in which a former deep connection with the natural environment has been broken. But this study suggests that an awareness of and need for interaction with what we call nature are still important and that they have important consequences in the experience of landscape. Among the people interviewed in the course of this study are many that have a profound affinity for trees, which they see as representatives of nature, a nature that is familiar and with which they participate in their daily lives. Some, like Steele Burden, plant thousands of trees and thus alter the landscape significantly, for both trees and people. Others derive aesthetic pleasure from
or experience the sacred among live oaks and ceibas. The grief expressed by people at
the loss of individual trees of both species, and their careful treatment of certain trees in
the cultural landscape suggest they have important relationships with them. But more
importantly, the whole notion of nature and culture as separate is called into question.
Perhaps, as Evernden (1992:99) put it, "The dualism cannot actually be resolved,
because it never existed." Nature in this view is not an entity forever separate from
culture. In encountering individual organisms that belong to what we call nature, "the
other," we find ourselves. Big old trees are representatives of this otherness at once
familiar and strange. Their size and age evoke wonder, a response that is closely tied to
religious experience. Ceibas and live oaks are among those trees that bring together this
sense of strange otherness and wildness with familiar associations of plazas and
backyards, thus uniting nature and culture.

One of my own experiences of this unity came, paradoxically, in the heart of
Louisiana's biggest city, New Orleans. In June of 1995 I visited City Park, a place I had
avoided. Why go to the most urban area of Louisiana to find live oaks, when there are
miles of countryside and remote bayous to be explored, and exotic ceibas in Guatemala
to visit? When I finally did, wandering out into the park one Saturday after a visit to the
Art Museum, I found a group of children playing nearby among the giant old oaks.

"They let you climb on the trees," one of the young boys told me as he rushed up
the limb of a sprawling tree. He and his friends had been there for hours and showed no
signs of leaving (Fig. 6.1). This is a whole world to be explored, with the whole body. In
the middle of one of the most crime-ridden cities in the country, it is safe. No signs warn
of possible dangers, no railings keep anyone away. Here is where an LSU student told
me he used be dropped off by his mother when he was young, allowed to spend hours
on his own. It is like that ceiba in the Mayan heaven, taking care of the children.

On Saturday afternoons, the live oaks are host to a wide range of visitors. The
people of New Orleans come to picnic, exercise, feed the birds or simply relax in the
Figure 6.1. Children at home among branches of live oaks, New Orleans.
shade. Brochures available at the visitor center point out these trees are older than the city. Each tree has been named, measured and enrolled in the Live Oak Society. One story claims Iberville camped among the trees when he founded New Orleans in 1719, on the banks of Bayou St. John, the passage between the Mississippi River and Lake Pontchartrain. Occasionally a little sightseeing train goes by, giving people a tour of the park and a glimpse of the Dueling oaks.

Later that year, in December, I returned to the park for the "Celebration in the Oaks." The place was transformed. Usually, at night, this place is empty, even dangerous. But from November until early January, during the darkest time of year, it is decked out in lights. Millions of them, in all colors, shapes and patterns hang from the trees, creating huge balls, stars, spider webs and garlands. Long rows of cars drive slowly along the roads to admire them. We walked, and were amazed at the magic people had wrought together with these giant trees. It was the twentieth century equivalent of mid-winter rituals of light in the sacred grove, only this one is in the heart of a huge city. This place the geographer Ratzel called a miserable swamp more than a hundred years ago, unfit to deserve the name park, has become a place of recreation for city dwellers, a protected piece of nature centered on a grove of ancient trees.

It is the nature of children to climb in trees, to play with their fruits, to hide among their branches, roots and trunks, to engage with them physically and thus begin to work out their own individual identity as humans. Adults plant and prune and move trees around, hang them with lights, and use them to communicate to each other about their beliefs and intentions. Much of this activity is done for the sheer pleasure of it, the need to engage with other living things. Out of it, and in partnership with the trees, we create the landscapes in which we live. Palín la Ceiba, City Park, Live Oak Society, indicate how human relationships with big old trees express the unity of nature-culture.
REFERENCES

Agnew, John A., and James S. Duncan (eds.)

Aguilera, Carman

Alcorn, Janice B.

Altman, Nathaniel

An Acadian

Anderson, Edgar
1957 The Cornbelt Farmer and the Cornbelt Landscape. Landscape 6: 3-4.

Anderson, Edgar

Anderson, Katharine

Appel, D. N.

Appleton, Jay

Arnold, Henry F.

Arreola, Daniel
Arriola, Jorge Luis

Baker, Herbert G.

Barrera Vazquez, Alfredo

Batres Jauregui, Antonio

Bennett

Blackburn, Thomas C., and Kat Anderson (eds.)

Bonner, James C.

Bor, N. L.

Brackenridge, H. M.

Bragg, Rick

Brasseaux, Carl A.
1988 In Search of Evangeline. Thibodeaux, Louisiana: Blue Heron Press.

Budowski, Gerardo
1965 Distribution of Tropical American Rain Forest Species in the Light of Successional Processes. Turrialba 15: 40-43.
Carrasco, David

Castenada, Gabriel Angel

Chinchilla Aguilar, Ernesto

Clay, Grady

Clouston, Brian, and Kathy Stansfield (eds.)
1979 After the Elm. London: William Hernemann Ltd.

Collins, John S

Comeaux, Malcolm

Condry, Richard E

Cornish, Vaughn
1946 The Churchyard Yew and Immortality. London: Frederick Muller Ltd.

Cortes y Larraz, Pedro

Cox, Barry

Craig, Nancy Jo, Latimore M. Smith, Nelwyn M. Gilmore, Gary D. Lester, and Alanas M. Williams
1987 The Natural Communities of Coastal Louisiana: Classification and Description. Louisiana: The Louisiana Department of Wildlife and Fisheries.
Cullen, Ed  

D'Antoni, Blaise C.  

Daniels, Stephen  

Darby, H. C.  

Davies, Douglas  

Delcourt, Hazel R. and Paul A. Delcourt  

Dickinson, Joshua C III  

Downing, A. J.  

Duhe, Brian J.  
1980 Utilization of Acorns from the Live Oak (Quercus virginiana) as Food by Prehistoric People in Coastal Louisiana. [Unpublished manuscript].

Dunbar, Linda Ann  

Dunn, Mary Eubanks  
Dysart, Lyn J.

Elbow, Gary S.

Eliade, Mircea

Elmqvist, T., P. Cox, W. Rainey, and E. Pierson

Entrikin, J. Nicholas

Entrikin, J. Nicholas

Esteva, Francisco Oliva

Evelyn. J.
1972 Sylva: Or, a Discourse of Forest Trees and the Propagation of Timber in His Majesties Dominions (1644).

Evernden, Neil

Feltwell, John, and Neil G. Odenwald

Flack, Jean
1970 The Spread and Domestication of the Pecan (Carya illinoensis) in the United States. [Unpubl. Ph.D., University of Wisconsin--Madison].
Folan, William, Ellen R. Kintz, and Laraine A. Fletcher

Fowells, H. A., (comp.)

Francaviglia, Richard

Frazer, James George

Friedrich, Paul

Gade, Daniel

Gade, Daniel W.

Gade, Daniel W.

Gadgil, Madhav, and V. D. Vartak

Gonzalez Ayala, Julio Cesar

Gottlieb, Alma

Greller, Andrew M.
Guest, Gregory S.
1995 A Tree for All Reasons: The Maya and the "Sacred" Ceiba (Yucatan).
(Unpublished Thesis, University of Calgary, Canada).

Haag, William G.

Haines, Roy
1973 Friendship Oak Has Role in Coast Tree Replanting. Times-Picayune, p. 3. New Orleans.

Haller, John M.

Harlan, Jack R., Jan M. J. De Wet, and Ann B. L. Stebler (eds.)

Harlow, William M. and Ellwood S. Harrar

Heerwagen, Judith, and Gordon Orians

Hoskins, W. G.

Howe, Marshall Avery

Hudson, Charles

Hutchinson, J.

Jackson, J. B.

Jackson, J. B.
Johannessen, Carl

Jones, Michael R., and W. Richard Rossman

Katz, Cindi and Andrew Kirby

Kellert, Stephen R., and Edward O. Wilson (eds.)

Kniffen, Fred

Kniffen, Fred B., Hiram F. Gregory, and George A. Stokes

Lawrence, Henry W.

Lawrence, Henry W.

Lawson, John

Little, Elbert, Frank Wadsworth, and Jose Marrero

Longfellow, William W.

Low, Setha M.

Lundell, Cyrus
Majupuria, Trilok Chandra

Martin, Alexander, Herbert Zim, and Arnold Nelson

Maynard, Eileen A.

McLaughlin, Steven P.

McPherson, E. Gregory, and Renee A. Haip

Meinig, D. W. (ed.)

Merchant, Carolyn

Mikesell, Marvin

Muir, John

Murawski, D. and J. Hamrick

Nakagawa, Tadashi
1987 The cemetery as a Cultural Manifestation: Louisiana Necrogeography. [Unpubl. Ph.D., Louisiana State University].

Neal, Marie
Newton, Milton B. (ed.)  
Department of Geography and Anthropology, Louisiana State University.

Nicholson, Katharine S  

Nixon, W.  
1984 A Biosystematic Study of Quercus series Virentes (the Live Oaks) with 
Phylogenetic Analyses of Fagales, Fagaceae and Quercus. [Unpubl. Dissertation, The 
University of Texas at Austin].

Nolan, Mary Lee  
1986 Pilgrimage Traditions and the Nature Mistique in Western European Culture. 

Odenwald, Neil, and James Turner  
1987 Identification, Selection and Use of Southern Plants for Landscape Design. Baton 
Rouge: Claitor's Publishing Division.

Orso, Ethelyn  
1992 Louisiana Live Oak Lore. Lafayette: Center for Louisiana Studies, University of 
Southwestern Louisiana.

Parsons, James J  
1962 The Acorn-Hog Economy of the Oak Woodlands of Southwestern Spain. The 

Pennington, Estill Curtis  
Publishing Company.

Pennington, T. Q. and Sarukhan, Jose  
1960 Arboles Tropicales de Mexico. Mexico: Instituto Nacional de Investigaciones 
Forestales.

Pepper, David  

Platt, William J. and mark W. Schwartz  
194-229.

Pliny  
Polonsky Celcer, Enrique  
1962 Monografía Antológica del Arbol. Guatemala: Centro Editorial "Jose de Pineda Ibarra."

Post, Lauren C.  

Preston, Dickson  

Price, Larry W.  

Proyecto Guauhitemala  

Pulle, A  
1906 An Enumeration of the Vascular Plants known from Surinam, Together With Their Distribution and Synonymy. Leiden: E. J. Brill Ltd.

Rackham, Oliver  

Randall, Charles, and Henry Clapper  

Rapoport, Amos  

Ratzel, Friedrich  

Record, Samuel J. and Robert W. Hess  

Redfield, Robert  
Renner, S. H. Balslev, and L. B. Holm-Nielsen  

Richans, R. H.  

Richardson, Miles  

Richardson, Miles  

Richardson, Miles, and Robert Dunton  

Rindos, David  

Rodrique, George  

Rykels, Brenda Barger  
1991 Our River Road Heritage...The Politics of Land Use: A Study of the History and Preservation Process at Whitney Plantation Louisiana State University]

Sahagun, Fray Bernardino de  
1963 Florentine Codex. Santa Fe: The School of American Research and the University of Utah.

Sanchez Vindas, Pablo Enrique  

Sapp, Jan  

Sapper, Karl  
1897 Das Nordliche Mittel-Amerika Nebst einem Ausflug nach them Hochland von Anahuac; Reisen und Studien aus den Jahren 1888-1895. Braunschweig.
Sauer, Carl O.

Sauer, Carl O.

Schama, Simon

Schele, Linda, and David Freidel

Schorger, Arlie

Schwanitz, Franz

Semple, Ellen Churchill

Sharer, Robert J.

Silver, Timothy

Smith, J.R.

Smith, J. Russell

Soza, Jose Maria

Spradely, James P.
Standley, Paul C.

Standley, Paul C., and Julian A. Steyermark

Stephens, Edwin L
1931 How Old are the Live Oaks? American Forests 37: 739-742.

Stephens, Edwin L

Stevens, Stanley

Stelzow, Frederick J

Stilgoe, John R.

Stoll, Otto

Stone, Christopher D.

Sutton, Richard K.

Swanton, J.R.
Thompson, Phil

Toledo, Victor Manuel

Tompkins, Janet

Tuan, Yi-Fu

Tuan, Yi-Fu

Turnbull, Martha

Ulrich, R. S.

Vale, Thomas

Van Doren, Mark (ed.)

Vega, Luis Rosado

Villagutierrez Soto-Mayor, Don Juan de
von Maltzahn, Kraft E.  

Waugh, Frank A. (ed.)  
1921 *Downing's Landscape Gardening*. New York: John Wiley & Sons, Inc.

Weekes, William D.  

West, Robert C., and Pedro Armillas  
1950 *Las Chinampas de Mexico*. *Cuadernos Mexicanos* 50: 165-190.

Whitman, Walt  

Williams, Michael  

Winberry, John  

Wood, Virginia Steele  

Writers' Program, Works Projects Administration  

Zand, Stephen J.  

Zube, Ervin H  
APPENDIX A: FIELD TRIPS

Guatemala

1994
1-12 to 2-20 Antigua and surrounding towns (San Antonio Aguas Calientes, Jocotenango, Ciudad Vieja, San Juan del Obispo, Santa Catarina Barahona), Guatemala City, Amatitlan, Palin, Esquipulas, Escuintla, Siquinala, La Democracia, San Lucas Toliman, Santa Elena, San Francisco Peten, Tikal Ruins, Flores

1995
6-26 to 7-19 Antigua and surrounding towns (see above), Guatemala City, Los Mixcos, Palencia, Palin, Amatitlan, Panajachel, Chimaltenango, Chichicastenango

Louisiana

1993
5-15 Lafayette and St. Martinville
10-12 Madisonville, Old Lewisburg

1994
10-21 Rayne, prairie region, Pecan Island, Grand Chenier, Holleyman Sanctuary
3-13 St. Francisville (Rosedown Plantation, Afton Villa, Grace Episcopal Cemetery)
7-19 Donaldsonville, Welcome, Oak Alley, Napoleonville, Thibodaux
7-29 New Roads, St. Francisville
9-17 to 18 Eunice, Opelousas, Church Point, Lafayette
9-21 Live Oak Gardens, St. Martinville, Catahoula
10-1 Jackson, Clinton, Greensburg, Independence
10-5 to 10-8 Bunkie, Cane River, Natchitoches, Alexandria, Nachez
10-10 New Orleans, Jean Lafitte Park in Barataria
10-12 Madisonville, Old Lewisburgh
10-13 to 15 Lafayette, Breaux Bridge, Grosse Tete, St. Martinville, Grand Chenier, prairie area
11-16 Maringouin
11-23 to 26 Tuscaloosa, Fontainbleau State Park
11-29 Lutcher, Manresa Retreat House (Convent)
12-22 New Iberia
12-26 to 29 Mobile, Pensacola

218
<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Event and Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>1-7</td>
<td>Back Brusly</td>
</tr>
<tr>
<td></td>
<td>1-8</td>
<td>Pierre Part, Morgan City, New Iberia, Charenton, Garden City, Franklin, Jeanerette</td>
</tr>
<tr>
<td></td>
<td>2-28</td>
<td>Port Allen</td>
</tr>
<tr>
<td></td>
<td>2-24</td>
<td>Houmas House and Tezcoco Plantation</td>
</tr>
<tr>
<td></td>
<td>3-15</td>
<td>Plantation homes on Audubon Pilgrimage, St. Francisville</td>
</tr>
<tr>
<td></td>
<td>4-21 to 23</td>
<td>Golden Meadow, Grand Isle</td>
</tr>
<tr>
<td></td>
<td>6-3</td>
<td>City Park, New Orleans</td>
</tr>
<tr>
<td></td>
<td>6-10</td>
<td>Hammond Oak Tour</td>
</tr>
<tr>
<td></td>
<td>12-5</td>
<td>City Park, New Orleans</td>
</tr>
</tbody>
</table>
APPENDIX B: INTERVIEWS

Most interviews conducted during the study were informal and unstructured. They ranged in length from a few minutes to several hours. I spoke with a wide range of people, making sure to include all age groups, males and females, and members of different cultural groups. The goal was not a statistical sampling that mirrors the population of each region, but a picture that included the range of attitudes likely to be found. The more extensive interviews provided much useful data, but the many brief encounters played a crucial role, too, often giving valuable glimpses into the human-tree relationships. It would be impossible to list all those spoken to, and for reasons of privacy some might prefer to remain anonymous.

Summarized below are approximate numbers of people interviewed in each study area, followed by the number of more extended interviews and examples of some of the people in that category, to give some indication of the range.

Guatemala

Total (approximate) 111 plus group of 10 children

Extended Interviews 13

- Francisco Cane Acosta, guide and naturalist, native Maya speaker
- Juana Itzol de Faulkner, Spanish teacher
- Bartolome Velasques Cabrera, concierge of town of Jocotenango
- Alfonso Arrivillaga, anthropologist, University of San Carlos, Guatemala City
- Max, extension agent employee of government
- Two owners of a plant nursery (male and female) in Siquinala
- Helen de Soto, restaurant owner in Amatitlan
- Edgar Geovany Mendoza, ethnobotanist and agronomist, Antigua

Louisiana

Total (approximate): 235

Extended Interviews 28
Betty Baggett, Horticulturist at LongVue Gardens, president of Federated Garden Clubs of Louisiana
Paul Orr, State, Urban Forester, Louisiana Department of Agriculture and Forestry
Neil Odenwald, Landscape Architect, LSU
Frank Neelis, community organizer, tree activist, Hammond
Randy Harris, arborist, LSU
Jim Foret, Sr., consultant on tree care, Lafayette
Jim Foret, Jr., urban forester for New Iberia
Glenn Conrad, historian, University of Southwestern Louisiana
Gercie Daigle, resident of Church Point
Verlyn Bercegeay, Secretary, Live Oak Society
Young woman running shop at St. John Cathedral, Lafayette
Joey Billeaud, horticulturist in charge of propagation, Live Oak Gardens
Phil Thompson, Facility Services, LSU
Steele Burden, landscape designer and philanthropist (deceased)
Two women working at Longfellow-Evangeline State Park, St. Martinville
## APPENDIX C: TREE SPECIES NOTED IN TEXT

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td><em>Malus pumila</em> Mill.</td>
</tr>
<tr>
<td>Amate</td>
<td><em>Ficus spp.</em></td>
</tr>
<tr>
<td>Bristlecone pine</td>
<td><em>Pinus aristata</em> Engim.</td>
</tr>
<tr>
<td>Baobab</td>
<td><em>Adansonia digitata</em> L.</td>
</tr>
<tr>
<td>Bald cypress</td>
<td><em>Taxodium distichum</em> (L.) Rich.</td>
</tr>
<tr>
<td>Balsa</td>
<td><em>Ochroma spp.</em></td>
</tr>
<tr>
<td>Beech, European</td>
<td><em>Fagus sylvatica</em> L.</td>
</tr>
<tr>
<td>Beech, American</td>
<td><em>Fagus grandifolia</em> Ehrh.</td>
</tr>
<tr>
<td>Black gum</td>
<td><em>Nyssa sylvatica</em> Marsh.</td>
</tr>
<tr>
<td>Breadfruit</td>
<td><em>Artocarpus altilis</em> (S. Parkinson) Fosberg</td>
</tr>
<tr>
<td>Catalpa</td>
<td><em>Catalpa bignonioides</em> Walt.</td>
</tr>
<tr>
<td>Chestnut, Sweet or Spanish</td>
<td><em>Castanea sativa</em> Mill.</td>
</tr>
<tr>
<td>Chinaberry</td>
<td><em>Melia azederach</em> L.</td>
</tr>
<tr>
<td>Coast live oak</td>
<td><em>Quercus agrifolia</em> Née</td>
</tr>
<tr>
<td>Cork oak</td>
<td><em>Quercus suber</em></td>
</tr>
<tr>
<td>Cottonwood</td>
<td><em>Populus fremontii</em> S. Wats.</td>
</tr>
<tr>
<td>Durian</td>
<td><em>Durio zibethinus</em></td>
</tr>
<tr>
<td>Elm, American</td>
<td><em>Ulmus americana</em> L.</td>
</tr>
<tr>
<td>Elm, English</td>
<td><em>Ulmus procera</em> Salis.</td>
</tr>
<tr>
<td>English oaks</td>
<td><em>Quercus robur</em> L.</td>
</tr>
<tr>
<td>Eucalyptus</td>
<td><em>Eucalyptus spp.</em></td>
</tr>
<tr>
<td>Giant sequoia</td>
<td><em>Sequoia gigantea</em> (Lindl.) Decne.</td>
</tr>
<tr>
<td>Ginkgo</td>
<td><em>Ginkgo biloba</em> L.</td>
</tr>
<tr>
<td>Hackberry (Sugarberry)</td>
<td><em>Celtis laevigata</em> Willd.</td>
</tr>
<tr>
<td>Interior live oak</td>
<td><em>Quercus wislizenii</em> A. DC</td>
</tr>
<tr>
<td>Lombardy poplar</td>
<td><em>Populus nigra</em> var. <em>italica</em> Muenchh.</td>
</tr>
<tr>
<td>Linden</td>
<td><em>Tilia spp.</em></td>
</tr>
<tr>
<td>Loblolly pine</td>
<td><em>Pinus taeda</em> L.</td>
</tr>
<tr>
<td>Longleaf pine</td>
<td><em>Pinus palustris</em> Mill.</td>
</tr>
<tr>
<td>Oranges</td>
<td><em>Citrus sinensis</em> (L.) Osbeck</td>
</tr>
<tr>
<td>Osage orange</td>
<td><em>Machura pomifera</em> (Raf.) Schneid.</td>
</tr>
<tr>
<td>Red silk cotton tree</td>
<td><em>Bombax malabaricum</em> DC</td>
</tr>
<tr>
<td>Slash pine</td>
<td><em>Pinus eliottii</em> Englem.</td>
</tr>
<tr>
<td>Southern magnolia</td>
<td><em>Magnolia grandiflora</em> L.</td>
</tr>
<tr>
<td>Sugar maple</td>
<td><em>Acer saccharum</em> Marsh.</td>
</tr>
<tr>
<td>Yew</td>
<td><em>Taxus baccata</em> L.</td>
</tr>
</tbody>
</table>
VITA

Katharine Anderson was born in 1951 to Elizabeth and Jack Robert Anderson, in San Francisco, California. An army brat, she lived with her family in Heidelberg, Germany, from age three to 10, attending German schools. She returned to the United States in 1962 with her mother and two brothers to live in the Berkshire Hills of western Massachusetts, where she graduated from Mount Everett Regional High School in Sheffield in 1968. Her mother, who had studied botany with Edgar Anderson (no relation), relentlessly pointed out plants to her and taught her to love gardening, while her grandfather took her on walks during which he talked with his tree friends.

During her first two years of college at Radcliffe, 1968 to 1970, she focused on international politics and English. In 1970 she left Cambridge to travel and eventually get married. Her first son, Damon, was born in 1972 in Virginia, where she and her husband were house parents at a village for retarded adults. The family moved to Burlington, Vermont, the following year and she returned to college at the University of Vermont in Burlington, this time majoring in botany. Her second son, Tobias, arrived in 1975. She continued part time to complete the bachelor of arts in botany in 1976 and a master of arts in Geography, with a focus on biogeography, in 1981. Her master's thesis dealt with volunteer apples in Northwestern Vermont.

For twelve years she raised her sons and worked at the National Gardening Association, a non-profit, educational membership organization based in Burlington. In 1984 she became managing editor of the monthly magazine, National Gardening, and in 1986 its editor-in-chief, a position she held for three years. During those years she served on several boards of directors, including the Garden Writers of America, the Vermont Natural Resources Council and Circus Smirkus. After a one-year stint as Acting Executive Director of National Gardening she decided to return to school.

While her sons pursued their undergraduate programs in New England, she accepted a University Fellowship at Louisiana State University for the doctor of...
philosophy program in Geography, beginning in August of 1991. In the fall of 1995 she taught world regional geography at Louisiana State University, then returned to Vermont to teach courses in world environmental issues and ethnobotany at the University of Vermont in Burlington. She lives near the shore of Lake Champlain in Colchester, Vermont.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Katharine Anderson

Major Field: Geography

Title of Dissertation: Nature, Culture and Big Old Trees: Human Relationships with Ceiba (Ceiba pentandra) and Live Oak (Quercus virginiana) in the Landscapes of Guatemala and Louisiana

Approved:

[Signatures]

Major Professor and Chairman
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

W V

November 15, 1996

Date of Examination:

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.