

# LIVING COMMUNITY

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*A Permaculture Case Study  
at Sol y Sombra*



By

BEN HAGGARD



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## A Permaculture Case Study at Sol y Sombra

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Ben Haggard

*A Publication of the Sol y Sombra Foundation  
and the  
Center for the Study of Community*

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*The Sol y Sombra Foundation is a not-for-profit tax-exempt educational organization. The Foundation's interests include designing and conducting educational programs on sustainable food growing, ecological restoration, soil and water conservation, and habitat enhancement for wildlife.*

*The Center for the Study of Community is a not-for-profit tax-exempt educational organization. The purpose of the Center is to foster research, thought, and action in support of healthy communities.*

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Library of Congress Catalog Card Number: 93-74176

First Edition

Photos by Bob Samples

Design by Bob Samples and Cheryl Charles

Printed by Johnson Publishing

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Printed with soy ink on recycled paper





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## ACKNOWLEDGEMENTS

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Without the garden that inspired it, this book would not have been written. Without the ongoing contributions of many people, the garden would not have been built. I want to acknowledge some of the many people instrumental in building the garden at *Sol y Sombra*: Susan Westbrook, Gary Valdez, Rob Roy, Rosa and Manuel Orona, Leo Moore, Luis Perez, and Beth and Charles Miller, whose vision it was.

For their careful and critical readings of this manuscript, I am grateful to Tony Huston, Betty Sue Flowers, and Kit Brewer. I thank Cheryl Charles and Bob Samples for their editorial suggestions and their work on the visual design of this book.

Most of the ideas and thoughts in this text are not original. I have been strongly influenced by a wide range of authors, teachers, and peers. I am particularly indebted to the work of Bill Mollison, Ivan Illich, Rena Swentzell, Bernard Rudofsky, Ananda Coomaraswamy, the Rodale Institute, and long conversations with Tim Murphy, Joel Glanzburg, Billy Weyman, and Kit Brewer.



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## INTRODUCTION

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In a remote part of *Sol y Sombra* grows an especially robust juniper tree. This juniper is encrusted with lichens. Mistletoe sprouts from its joints. Young piñon saplings reach for sunlight through the lattice of its twisted limbs. Grasses, wildflowers, yucca, and cacti spread at its base. Wolfberry and chamisa, apache plume and currant weave among the lower branches, searching for an ideal balance between light and shade.

Rock squirrels and beetles burrow in the dark, earthy litter deposited over decades. Bees and ants, with characteristic industry, traffic through these green corridors. Spiders fasten webs among tiny olive-colored needles. Raucous flocks of piñon jays scour the treetops for nuts and berries while towhees feed on mistletoe fruits, nestled in a thicket of limbs.

Rabbit and bird droppings and bits of twig, leaf, dust and seed collect on the ground. An island of rich soil forms, distinct from the surrounding landscape. Scratching through the top inch or two of organic duff reveals white filaments of fungal mycelia, gathering their energies for the onset of summer rains. Then mushrooms will appear, sheltered by dense tree canopy from the harsh desert sun.

A complex biological economy expresses itself here—efficient, productive, dizzyingly intricate. The juniper is the most visible reference point for something that can best be described as a



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community. Trees are not isolated or still. A healthy tree is a web-like living structure of beneficial relationships and connections among animals, plants, fungi, and bacteria.

For three years, I worked as a permaculture gardener and landscape designer at *Sol y Sombra*, a private estate on the outskirts of Santa Fe, New Mexico. In that time I studied the living communities that surrounded me. I watched people, plants, animals, earth and sky. Based on these observations, I designed gardens, meadows, woodlands, and wetlands that were intended to function like ecosystems, rich webs of connection among living species and their physical environment.

This book is a personal introduction to permaculture, a design system that reconciles human communities with the ecological imperatives of a living planet. Permaculture design may be used to restore ecosystems; create sustainable farms and healthy towns; and promote economic systems that support earth care. The account in this book is neither objective nor comprehensive. It is my own story: how I became interested in permaculture, how I understand its principles, and how I chose to apply them on a particular site.

The gardens at *Sol y Sombra* represent passion, enthusiasm and the collaborative efforts of many people. They are informed by a sense of mission, the belief that small efforts can have large impacts. *Living Community* is an attempt to share this enthusiasm, along with practical tools for healing a damaged planet and building a viable future.



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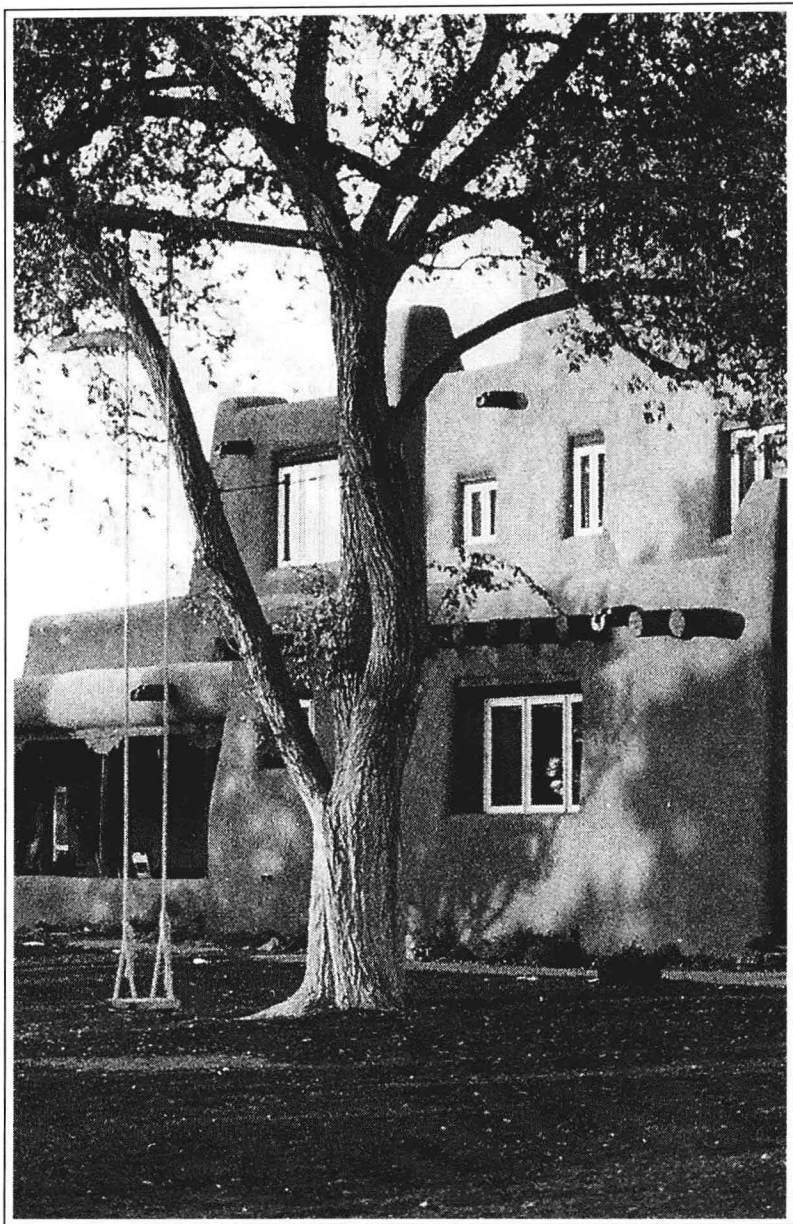


# SOL y SOMBRA

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Every day of the year lunch is served in the sun room at the main house of *Sol y Sombra*. Gardeners and diplomats, housekeepers, spiritual teachers, artists, entrepreneurs, family, friends, neighbors, and occasionally the plumber, sit down together for the midday meal. In the morning, produce is brought to the house from the gardens, the cold frames, and the greenhouse. Meals are prepared in the large central kitchen and set out on a long buffet: crocks of soup and steaming platters of greens, a big bowl of fresh salad sprinkled with nasturtium and dianthus blossoms, maybe a casserole or fresh baked bread. The food is nourishing, free of chemical additives, attractive and diverse.

Lunch at *Sol y Sombra* reflects an idealistic vision of community: eclectic, egalitarian, ecumenical, and ecological. *Sol y Sombra* is a private residence struggling to become a community. The community consists of staff and residents who serve a diverse population of guests and friends. *Sol y Sombra* offers guests a vision of cooperation among people and with nature, a peaceful sanctuary in a distracted world.

Besides local friends and neighbors, guests come from around the country and the world. All visitors are given a tour of the gardens and introduced to the principles of ecological restoration being practiced on the property. Gardeners enthusiastically describe their efforts in minute detail. They talk about mulch, earthworms, wildlife, compost, recycling, soil, water, conservation, and health. They talk about complex yet commonsense relationships



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among living things and their environment. The *Sol y Sombra* gardeners describe the pleasures of growing food organically and the pride of abundant harvests. Urban dwellers are regaled with tales of snakes and sewage sludge. From these conversations, ideas are planted that grow into projects in diverse and distant places.

*Sol y Sombra's* 20 acres include a private botanical garden, wildlife habitat, organic farm, and 15 acres of restored high desert ecosystem. A cluster of buildings occupies the center of the property: a main house, offices, gathering rooms, rooms for guests, and a large gathering space called the lodge. With the exception of the lodge and the greenhouse, all of the buildings existed when *Sol y Sombra* was purchased by its current owners, Beth and Charles Miller. Prior to the Millers, the estate was owned by the painter Georgia O'Keeffe, who spent the last three years of her life here.

The buildings at *Sol y Sombra* date from the late 1930s. Indigenous materials, mud adobe bricks and round timbers called *vigas*, are incorporated in an architectural style which has characterized Santa Fe since the early part of the century. The house is three stories high, massive, rooted to the earth. With its soft curving corners, rounded parapets, wooden gutters called *canales*, and walls that taper from a wide base, the house is clearly built from clay and native wood.

*Sol y Sombra* is located on the lower slopes of the foothills to the Sangre de Cristo Mountains. Just above the property to the east, the terrain shifts from gently rising plain to abrupt vertical-



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ity. Since European colonization, this region has seen many changes. At one time these slopes were forested with tall pines. Springs and streams could be found in the drainages. Over the last two centuries, the slopes and plains surrounding Santa Fe were logged to provide building materials and fuelwood for a burgeoning population and its growing economy. Woodcutters were followed by sheepherders, who destroyed much of the remaining vegetative cover, leaving eroding slopes and skeletal rocky soils.

The piñon forest that now inhabits the foothills of northern New Mexico is generally young. Many of the trees are stunted and unhealthy. The ground is barren and erosive. Grass, yucca, and living bacterial crusts cling to small hummocks of soil, while the earth around them is gradually swept away by wind and torrential monsoons. Deep gullies open up throughout the landscape, undercutting trees, carrying away soil, and poisoning rivers downstream with silt. The landscape is in slow decline, a desert being born.

The gardens at *Sol y Sombra* were built as a practical and direct response to this process of desertification. Lawns were replaced by more useful and diverse botanical collections. Check dams were built to control erosion. Hundreds of thousands of young trees, shrubs and perennials were planted. The bare ground has grown over with native grasses and shrubs. A tangle of orchard fruits, berries, and herbs creates a productive forest of food. Small ponds dot the landscape, bringing birds, frogs, and other small wildlife. The land returns to life.



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The Millers chose to use the permaculture design system in developing their property, and invited me to assist them as their gardener and designer. Permaculture provides practical tools for the care and restoration of communities, including natural ecosystems and human neighborhoods. From 1990 to 1992, an intensive design and building program was undertaken for the site. Emphasis has now shifted to refining plant collections, gathering information, and sharing knowledge with a growing public. *Sol y Sombra* has become a laboratory for sustainability in the American southwest.

*Sol y Sombra* is a visionary project. Beth Miller has repeatedly called it her farm for growing flowers, food, people, and ideas. Beth, the source of *Sol y Sombra's* vision, is a slim, elegant southerner in her sixties. She speaks quietly but with great intensity about the need to bring warring communities together: "The environmentalists and the corporate people need to talk to each other, or we're all in trouble. This is a place where they can do that."

Many groups have used *Sol y Sombra* as neutral ground for achieving conflict resolution. Beth encourages all visitors to tour the grounds and be introduced to the restorative powers of living systems. Permaculture takes a refreshingly undogmatic approach to environmentalism, acknowledging human beings and their needs as a natural and sometimes necessary part of the ecosystem. Businesspeople and policymakers respond well to the solution-oriented outlook of "applied ecology."



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In spite of its worthy ambitions and the impression it leaves with most visitors and guests, *Sol y Sombra* is no paradise. The name means "sun and shadow," an apt title for a community struggling to live appropriately in a rapidly changing world. Like most communities, *Sol y Sombra* is at times perplexed by its internal contradictions. Most members of the community are employees, dependent on their positions to support themselves and their families. This serves as a strong deterrent to risk-taking or honest criticism of the project, its managers, and the Millers.

Staff is friendly, although stratified, reflecting differences in income, education, even language. The tendency to separate into groups frequently manifests at lunch, where tables and conversations are often segregated by personal choice. Still, a mix of radically different people, crossing boundaries of class and culture, happens often enough to create a rich social environment.

Deeper contradictions occur in the area of vision. Most students of community believe that a shared vision and ethic is necessary for a social group to survive and flourish. While *Sol y Sombra* offers challenge and opportunities for growth, and attracts idealistic and motivated people, it is torn between its role as a private home and its ideal of a place where people are empowered to improve themselves and their world. Merging the specific needs of a private owner with the invitation to invest creatively in a larger vision is a difficult, ongoing challenge for the entire staff.

Finally, reclaiming a degraded landscape so completely and in such a short time requires lavish amounts of water, plant



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material, and labor. The gardens are beautiful and impeccably maintained, requiring great effort. Occasionally a visitor will note that such costly inputs are not affordable to most people, particularly in the poorest parts of the world.

Charles Miller has responded by pointing out that research and development is always expensive, and frequently undertaken on an accelerated schedule. The pace at which the gardens were developed, not the techniques employed, drove up the cost. The *Sol y Sombra* gardens were intended to demonstrate to a large and diverse audience that reclamation and sustainability are possible. Since the techniques used are simple and effective, ecological farming and restoration as practiced at *Sol y Sombra* can be applied anywhere, using local tools, skills, and resources.

Personally, I reconcile contradictions by acknowledging that most people drawn to *Sol y Sombra* make honest and consistent efforts to learn respect and right action toward the earth and each other. I call *Sol y Sombra* "the mystery school," a place where deepest assumptions are challenged and unexpected talents surface. As a student of *Sol y Sombra*, I have learned to turn to the resinous pine trees or the warm rich odor of dark soil for reassurance, solace, and delight. Conflict and compromise are part of being human. Fortunately, so are the sensual pleasures of living, breathing earth.

Regenerated landscape is powerfully persuasive. Demonstrating the process of regeneration is the core mission of *Sol y*

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*Sombra*. The sense of purpose and of healing is palpable to many of the people who visit. Guests often remark that the ways they see or think have been changed by their experience of *Sol y Sombra* and its gardens.





