

Archeology
at the
The Bandelier Garden

by Judy Reed

A project of the
Historic Santa Fe Foundation

Exploring the Bandelier Garden through Archeology

Introduction

*Welcome to beautiful
Bandelier Garden!*

The garden is part of a historic property which includes the adjacent residence known as "El Zaguán." The residence dates from the late 1800s and early 1900s. Both the garden and the building are owned by the Historic Santa Fe Foundation, a private, non-profit preservation organization established in 1961 to preserve Santa Fe's historic buildings and neighborhoods. The Foundation maintains the property for the education and enjoyment of the public. We are pleased to share with you the story of how archeology was used to uncover part of the history of Bandelier Garden and to develop a plan for its continued preservation.



The History of the Bandelier Garden

Few written records on the origins or development of the garden exist. We know that what is now Bandelier Garden was part of several parcels of land which James L. Johnson purchased in the mid-1800s from members of the Moya family. Johnson, who came from a prominent Maryland family, moved to Santa Fe in 1852 and established a mercantile business that prospered with the growth of trade on the Santa Fe Trail. As his family and his fortunes grew, so did his house, now known as "El Zaguán." The Johnson family was associated with the Canyon Road property, either as owners or as tenants, for almost 75 years.

Although the garden has acquired the name of

Adolph Bandelier, the well-known Swiss anthropologist (1840-1914), there is no evidence that Bandelier had anything to do with its design or propagation. Bandelier was a friend of the Johnson family and lived with them at El Zagan from April of 1891 to May of 1892. There are few references to the garden in Bandelier's journals, however, although he was an avid gardener. The belief that Bandelier designed the garden appears to have originated with Mrs. Margretta Dietrich, a later owner of the property, who wrote that there was "a tradition that Adolph Bandelier helped lay out the garden."

The garden was probably laid out by Mrs. James L. Johnson in the late 1800s. An article in the *Santa Fe New Mexican* newspaper dated May 1, 1928 notes that "The garden was planted by the late Mrs. Johnson and contained many Madonna lilies, peonies and the wonderful horse chestnut trees which provided what looked like an oasis in the desert on the hot summer days."

Sometime before the formal garden was planted, chestnut trees, rose bushes, and mockorange shrubs were planted near the north end of the porch and along the side street. Eventually, the mockoranges were moved to the front of the porch and the horse chestnuts replaced the mockorange bushes along Canyon Road. The changes provided a less-obstructed view from the porch of the planned Victorian garden, and the trees planted along the southern edge of the property also afforded shade for El Zagan during the hot summer months.

When Margretta Dietrich, a wealthy Eastern widow, purchased a house adjacent to the Johnson property in the 1920s, she noted that "adjoining my residence on the east was another very old place...it had a beautiful garden with a palling fence running along the street and many times I had



Excavation
in process

gazed through the pickets of that fence with great pleasure...." Mrs. Dietrich purchased the Johnson property in 1928, becoming the mistress of both the "very old place" and the "beautiful garden." It was Mrs. Dietrich who provided for the preservation of both by deeding the property in her will to a preservation organization, El Zagan, Inc. In 1979, ownership of the property was transferred from El Zagan, Inc. to the Historic Santa Fe Foundation, which took on the responsibility of preserving it forever.

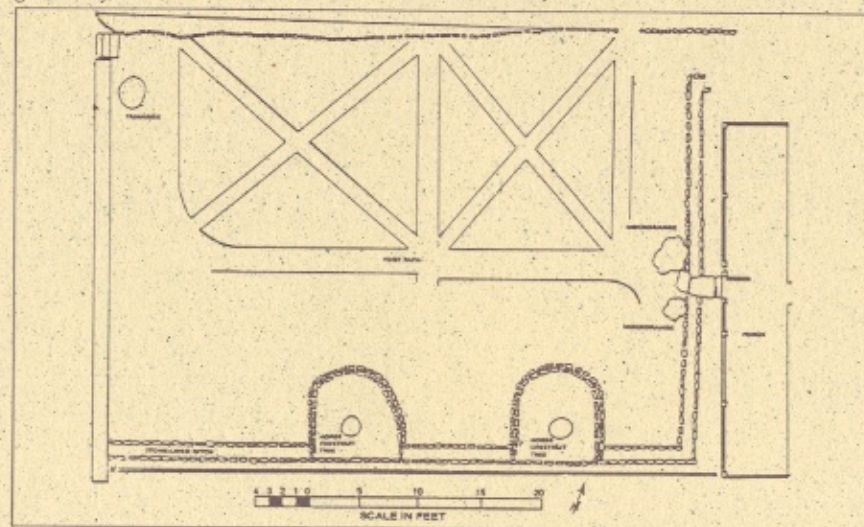
The Role of Archeology in Researching and Preserving the Garden

The recovery of a historic landscape, such as the Bandelier Garden, is achieved in several stages, beginning with maintenance that excludes

non-historic plants, then the re-creation of original ambiance, and, lastly, restoration of a precise replica. Here at the Bandelier Garden, we are identifying non-historic plants for removal and are replacing them with period plants that will re-create the garden's original ambiance.

Archeology plays an important role in documenting the history of a garden, how it was built, and what was grown.

1996
garden layout



Just as at prehistoric sites, archeologists can retrieve physical evidence from historic gardens during controlled and well-documented excavations that are carefully described, analyzed, researched, and interpreted. The excavation results are integrated with other sources of information, such as interviews, archival research, and the examination of historic photographs.

Limited archeological excavations were undertaken in Bandelier Garden in 1990 to gather some less-than-obvious data about the garden. This booklet describes the results of the first season of archeological work. The information obtained thus far from the Bandelier Garden is an exciting beginning to the full story of this living piece of community history.

We have made great strides since 1990 in bringing the Bandelier Garden back to its Victorian form. With enough information we will eventually move from restoration to recreation of the garden's original ambiance; we will share with you the secrets we uncover along the way in future publications.

Archeology at the Bandelier Garden

The small archeological crew withstood six days of frigid springtime rains and snow flurries while conducting the limited excavations.

The plan was to create minimal

disturbance while producing useful information on the layout and contents of the first garden some 100 years ago.

Two kinds of pits were excavated with shovels and trowels: one-meter-square plots to expose the different layers of soil deposits (stratigraphy), and small scattered "shovel holes" from which were collected soil samples for analysis of pollen and other remains.

The southern portion of the garden along Canyon Road apparently has been barren for many years. This area was



Butchered cow and sheep bones.

sampled separately to provide baseline data representing the natural accumulation of pollen and seeds in a less-disturbed context.

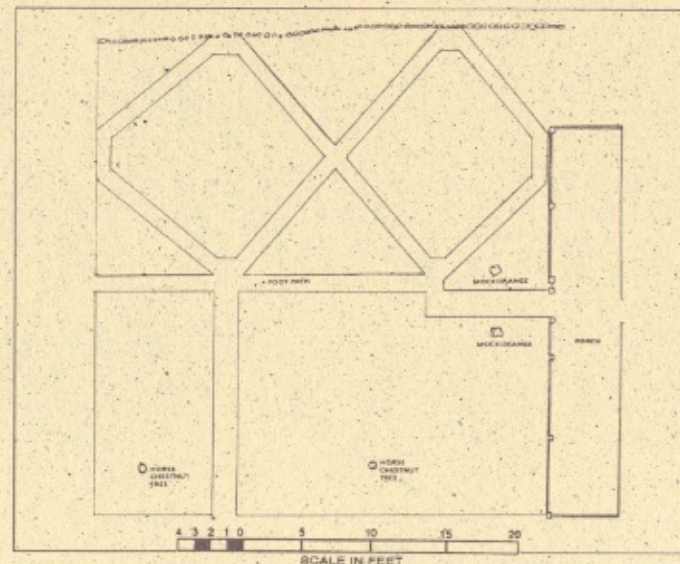
The adverse weather endured during the field work was not in vain and many interesting discoveries emerged.

Size, Layout & Use

The excavations indicated that the first garden was about two-thirds the size of today's (pages 3 and 5). The original perimeter was probably fenced to exclude scavenging dogs attracted to the butchered sheep and cow bones found in areas adjacent to the garden's west border (page 4).

Daily trash dumping of household waste in the late 19th Century often occurred close to the residence and on one's own property. At El-Zaguan, trash dumping was concentrated in the west end of the garden. The small size of the trash dump indicates that most of the trash was either deposited elsewhere on the property or was hauled away. We found no traces in the garden of the massive trash heaps that would have accumulated from daily use.

Even so, the small accumulation of trash found on the west garden border would have detracted from a Victorian garden. We located the outline of a feature that had long *Probable 1890s garden layout*



since been removed, and interpreted it to be the footings of a partition built to protect the visual sensibilities of the residents of El Zaguán from the trash dump.

The dramatic, eye-catching tamarisk tree in the northwest corner of the existing garden is obviously quite old and possibly pre-dates the early Victorian landscape. Local folklore offers two reasons for planting tamarisk trees. Acting as nature's sump pumps and swamp coolers, tamarisks absorbed liquid waste from privies while they simultaneously cooled the surrounding air with water vapor transpired through their fine leaves.

Garden Construction & Artifacts

The view over the fence at the garden's west boundary reveals the natural south-to-north downward slope

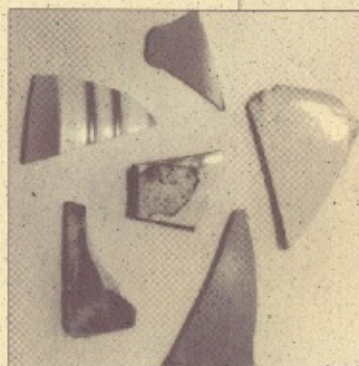
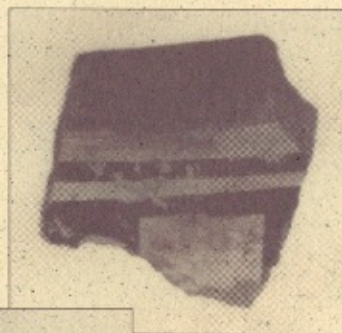
of the land. Leveling this slope required an enormous number of wagon loads of dirt to prepare the garden for planting.

Our small test excavations recovered artifacts representing three cultures and some 450 years of area history in the sand and gravel used to prepare the garden for planting. Included are shards of 20th Century wine bottles, a piece

of pearlware ceramic dating from 1830-1850, fragments of Tewa pottery dating to the mid-1700s, broken early-historic Indian utility pottery, and fragments of prehistoric black-on-white bowls and jars from sometime in the 1100-1400 time period.

The artifacts' relative placement in the

Tewa pottery



Euro-American ceramics



Prehistoric black-on-white pottery

layers of soil, or "stratigraphic sequence," was not according to their order of age. That is to say, the oldest fragments were not on the bottom and the most recent were not on the top. This indicates that the soils were mixed and that the artifacts were moved from the place where they



1996 garden overview

were originally discarded. Unfortunately, little can be learned about the past from mixed and displaced deposits such as those found in the garden's leveling fill.

Approximately 10-15 centimeters of loose topsoil crowned the sandy leveling fill,

covered in turn by successive layers of compost and fresh topsoil added to keep the garden productive. Over the years, these additions have resulted in the accumulation of a 50 centimeter-thick layer of topsoil containing scattered artifacts.

The densest layer of artifact-laden earth is between 10 and 40 centimeters deep. Like those found in the leveling fill, these artifacts represent diverse cultures, time periods, and activities. At this early point in our investigations, it is difficult to determine which artifacts were brought in with the fill and which found their way into the garden at the hands of those residing at El Zaguán during the past century. Most of the items found are associated with normal household activities.

Pollen Analysis

Pollen analysis is not simply the identification and counting of pollen types. Plants differ in their pollination biology, and plants pollinated by insects produce fewer pollen grains than plants pollinated by the wind. Pollen grains from different plants differ in their abilities to resist decay even

under the same conditions. Diverse details of plant biology, climate, and soil depositional processes must be taken into account by the pollen analyst (palynologist).

The preservation of microscopic pollen grains from the Bandelier Garden varied from good to poor. Pollen types from ornamental flowers were especially scarce, perhaps reflecting the practice of taking fresh flower cuttings from the garden for indoor arrangements.

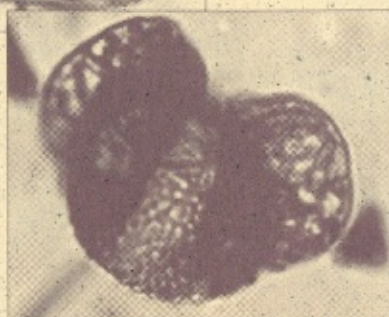
Nonetheless, information obtained from the pollen analysis provided a glimpse into certain aspects of the garden's evolution.

For example, leveling fill in the northeast garden area contained pollen from pine and juniper trees as well as plants in the sunflower family, possibly including aster, rabbitbrush, and snakeweed. A different dirt source containing these same pollen types but also including windborne pollen grains from weedy plants such as amaranth, pigweed, and goosefoot, was quarried for use in the southern half of the garden. These pollen types are typical of soils from the open brush areas in northern New Mexico.

Strikingly absent from the soil samples is strong pollen evidence of vegetables that would indicate the presence of a kitchen garden — a prevalent feature of such properties 100 years ago. This project's sampling scheme, however, covered a very small percentage of the total garden. Additionally, many vegetables are harvested before they flower and are thereby prevented from adding their pollen to the archeological record. On the other hand, our sampling coverage was broad, and several



Corn pollen grain



Pine pollen grain

garden food staples such as squash, beans, and chiles are allowed to flower in order to produce fruit; some vegetable pollen should have been detected, if present. At this early stage in our investigation, it is reasonable to assume an alternate location for the kitchen garden.

A trace of maize (corn) pollen, the sole vegetable definitely represented in the pollen samples, was found in the fill dirt used to level the garden in the northeast quadrant. Corn pollen disperses a very short distance, and corn plants must be planted in dense patches in order to cross-pollinate and bear fruit. Given the low amounts of corn pollen reported in the analysis, and the fact that the fill dirt was brought in from elsewhere, it is possible that corn may not have been grown in the garden at El Zagan.

So what would have been a likely spot for kitchen gardening? Probably in the east courtyard, where we still grow a few vegetables and herbs today.

Summary

Initial archeological work conducted at the Bandelier Garden revealed that fill dirt was brought into the garden space, indicating that the garden was planned from the beginning. The fill dirt contains the pollen signatures of plants native to the open landscapes in the area surrounding Santa Fe, as might be expected. Unexpectedly, the dirt also contains broken artifacts dating back several centuries, suggesting more than one source for the wagonloads of fill dirt needed



Main path through garden

to level the garden space. While the pollen data are not conclusive, it appears likely that food plants were not grown in the garden space but elsewhere, such as in the east courtyard where vegetables and herbs are grown today.

Garden Musings

Plants, trees, and shrubs have differing life cycles and life spans. Although planted

according to a gardener's idea, the individual plants grow to express their own form. The only constant about any garden, historic or newly planted, is change. The Bandelier Garden will always include some of the kinds of plants you see today, but the details of pattern and color will change from season to season and from year to year.

If you are interested in historic garden preservation; buy and grow heirloom seeds (available from many sources), and consider making a donation to the Bandelier Garden Preservation Fund.

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