

THE MANDALA IN WESTERN GARDENS THROUGH HISTORY

By

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By

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## TABLE OF CONTENTS

	ACKNOWLEDGMENTS.....	3
	LIST OF FIGURES.....	7
	ABSTRACT.....	13
1	INTRODUCTION.....	15
	Psychological Issues.....	15
	The Collective and the Personal.....	17
	Selection Process.....	19
	Collective Archetype Selection.....	24
	Applicability.....	28
2	THE STUDY.....	29
	Purpose.....	29
	Definition of terms.....	29
	Evolutionary Psychology.....	29
	Developmental Psychology.....	32
	Cognitive Psychology.....	35
	Social intelligence.....	35
	Natural history intelligence.....	35
	Technical intelligence.....	36
	Language intelligence.....	36
	Analytical Psychology.....	37
	The psyche.....	39
	Archetypal images.....	40
	The mandala.....	41
	Personality typology.....	44
	Gardens.....	47
	Limitations of the Study.....	48
	Significance of the Study.....	48
	Assumptions and Rationale for a Qualitative Design.....	49
	Methods.....	50
	Data Collection.....	51
	Data Pool.....	51
	Data Selection.....	51
	Data Preparation.....	52
	Data Analysis.....	52
3	THE CONNECTIONS.....	53
	Connections to Other Humans.....	54
	Connections to the Conrete.....	57
	Connections to Universal Principles.....	59
	Connections to the Symbolic.....	61
	Intimations of the Collective.....	65
4	THE ANALYSIS.....	69
	The Beginning: An Islamic Paradise Garden.....	70
	The Container of the Paradise Garden.....	70

	Court of the Lions Inventory.....	73
	Analysis of the Court of the Lions.....	75
	Psychological implications.....	75
	The Middle Ages: A Cloister Garden.....	76
	The Culture of the Middle Ages.....	76
	Cloister at Arles Inventory.....	78
	Analysis of the Cloister at Arles.....	79
	Psychological implications.....	80
	A Renaissance Garden.....	81
	The Culture of the Renaissance.....	81
	Villa Lante Inventory.....	85
	Analysis of Villa Lante.....	87
	Psychological implications.....	87
	The park.....	87
	The garden.....	88
	A Baroque Garden.....	91
	The Culture of the Baroque.....	91
	Vaux-le-Vicomte Inventory.....	95
	Analysis of Vaux-le-Vicomte.....	97
	Psychological implications.....	97
	An English Landscape Garden.....	100
	The Culture of the English School.....	101
	Stourhead Inventory.....	106
	Analysis of Stourhead.....	109
	Psychological implications.....	110
	A Modernist Garden.....	114
	The Modernist Culture.....	115
	Goldstone Inventory.....	124
	Analysis of the Goldstone Garden.....	127
	Psychological implications.....	127
	A Martha Schwartz Garden.....	130
	The Culture of Schwartz.....	131
	Dickenson Garden Inventory.....	134
	Analysis of the Dickenson Garden.....	137
	Psychological implications.....	138
5	CONCLUSIONS.....	143
	Summary of Findings.....	143
	Paradise and Medieval Attitudes.....	143
	Paradise pattern.....	144
	Medieval pattern.....	145
	Renaissance Attitudes.....	146
	Park at Villa Lante.....	146
	Garden at Villa Lante.....	147
	Baroque Attitudes.....	149
	Baroque pattern.....	150
	English Attitudes.....	151
	English pattern.....	151
	Modernist Attitudes.....	152
	Modernist pattern.....	154
	Martha Schwartz's Attitudes.....	155
	Schwartz's pattern.....	156
	Discussion of Findings.....	157
	Circles.....	158

Squares.....	159
Quartering Axes.....	160
Syntheses.....	162
Archetypal and Culturally-Specific Mandalas.....	164
Conclusions.....	165
Question One.....	166
Question Two.....	166

APPENDIX

A	ENLARGED PLANS OF THE SEVEN GARDENS.....	170
B	SUMMARIES OF THE SEVEN ANALYSES.....	177
	LIST OF REFERENCES.....	184
	BIOGRAPHICAL SKETCH.....	190

## LIST OF FIGURES

1-1	African round house. (Drawing by author.).....	27
2-1	Combinations of circles and squares that make up a mandala, each divided into four quarters. (Drawings by author.).....	41
2-2	A flower is beautiful is a judgment based on personal values. (Drawing by author.).....	45
2-3	Logically-derived judgments are based on impersonal principles. (Drawing by author.).....	45
2-4	Sensate perceptions are derived from a constant flow of information from the five senses. (Drawing by author.).....	46
2-5	Intuitively-derived perceptions are from the unconscious. (Drawing by author.).....	46
4-1	Four mandala combinations. (Drawings by author.).....	69
4-2	Royal Garden at Pasargadae plan. (Drawing by author).....	71
4-3	A paradise carpet. (Drawing by author.).....	71
4-4	The Court of the Lions, a paradise garden. (Drawing by author.).....	73
4-5	Court of the Lions plan. A) Hatched and filled plan. B) Hatched only plan. C) Coded plan. (Drawings by author.).....	73
4-6	Circles in the Court of the Lion. A) Existing complete and partial circles. B) Partial and implied circles are drawn. (Drawings by author.).....	74
4-7	Squares in the Court of the Lions. A) Existing squares/rectilinear elements. B) Implied squares completed. (Drawings by author.).....	74
4-8	Quartering lines in the Court of the Lions' plan. A) Existing lines that divide the plan into quarters. B) Completed pattern of quartering lines. (Drawing by author.).....	74
4-9	Synthesis of elements. A) Overlay of isolated elements. B) Color-filled synthesis, refined, and the extracted mandala. (Drawings by author).....	75
4-10	Ideal plan of a monastery garden; St. Gall, Switzerland; about 830. (Drawing by author).....	77
4-11	Arles plan. (Drawing by author).....	77
4-12	Plan of the Cloister at Arles A) Plan. B) Coded plan. (Drawings by author.).....	78
4-13	Circles at Arles' Cloister. A) Complete and implied circles. B) All circles completed. (Drawings by author.).....	78
4-14	Squares at Arles' Cloister. A) Complete and implied squares. B) All squares completed. (Drawings by author.).....	78

4-15	Quartering lines at Arles. A) Incomplete quartering lines. B) Completed quartering lines. (Drawings by author.).....	79
4-16	Synthesis of isolated elements and extracted mandala for Arles' Cloister. A) Overlaid elements. B) Extracted mandala. (Drawings by author.).....	79
4-17	A fountain at Villa Lante adorned with ancient gods and goddesses. (Photograph by Sara Katherine Williams.).....	82
4-18	View of Villa Lante's lower parterre. (Photograph by Sara Katherine Williams).....	82
4-19	Villa Lante's garden and park. (Drawing by author.).....	83
4-20	Fresco at Villa Lante. (Photograph by Sara Katherine Williams.).....	83
4-21	A pool in the "wilds" of Lante's park. (Photograph by Sara Katherine Williams.).....	84
4-22	Three fountains marking Villa Lante's garden narrative. A) Crawfish water chain. B) The stone dining table with its water running through its center in order to cool wine. C) Fountain of the Moors on the lower terrace. (Photographs by Sara Katherine Williams.).....	84
4-23	Plan of Villa Lante's garden and adjacent park. A) Line drawing. B) Drawing color-coded for actual and potential circles, squares, and quartering lines. (Drawings by author.).....	85
4-24	Lante circles. A) Implied circles. B) Implied circles completed. (Drawings by author.).....	85
4-25	Lante squares. A) Squares and implied squares. B) Implied squares completed. (Drawings by author.).....	86
4-26	Quartered crossings. A) Existing quartered crossings. B) Completed quartered crossings. (Drawings by author.).....	86
4-27	Synthesis. A) Combined elements. B) Color-filled synthesis. C) Traditional mandalas extracted. (Drawings by author.).....	86
4-28	Villa Lante's analysis. A) Park. B) Garden. (Drawings by author).....	87
4-29	Swirling circles around clustered squares. (Drawing by author.).....	88
4-30	Garden design and axis. A) The design. B) Garden axis. (Drawing by author.).....	89
4-31	Water parterre mandalas. A) twelve small mandalas, or B) four larger mandalas, or C) one large mandala. (Drawings by author.).....	90
4-32	Plan of Vaux-le-Vicomte. (Drawing by author.).....	92
4-33	View of Vaux-le-Vicomte's <i>parterre de broderie</i> from the window of the salon. (Photograph by Sara Katherine Williams.).....	93

4-34	View from the chateau's terrace. (Grove Art Online; August 2, 2006).....	93
4-35	Contrast between vertical forest edge and horizontal plane is evident here. (Howe, August 3, 2006).....	94
4-36	Sculptures, and evergreen topiaries punctuate space. (Photograph by Sara Katherine Williams.).....	94
4-37	Outline of Vaux-le-Vicomte. A) Outline of garden's plan. B) Outline of garden's plan coded for actual or implied circles, squares, and quartering lines. (Drawing by author.).....	95
4-38	Vaux-le-Vicomte circles. A) Circles as designed. B) Implied circles completed. (Drawings by author.).....	96
4-39	Vaux-le-Vicomte squares. A) Rectilinear elements outlined. B) Implied squares/rectangles completed. C) Refinement of composition. (Drawings by author.).....	96
4-40	Vaux-le-Vicomte quartering lines. A) Implied lines. B) Completed quartering lines. (Drawings by author.).....	96
4-41	Vaux-le-Vicomte synthesis. A) Inventories overlaid. B) Color-filled figure from A). C) Implied squares from B) completed. (Drawings by author.).....	97
4-42	Overlapping squares in Vaux-le-Vicomte's composition. (Drawing by author.).....	98
4-43	Vaux-le-Vicomte's extracted mandalas. (Drawings by author.).....	99
4-44	English landscape garden. (Photograph by Sara Katherine Williams.).....	100
4-45	Set view of the Temple of Apollo at Stourhead. (Photograph by Sara Katherine Williams.).....	101
4-46	Plan of Stourhead by Henry Hoare II. (Drawing by author.).....	104
4-47	View of the Pantheon across the lake at Stourhead. (Photograph by Sara Katherine Williams.).....	105
4-48	Stourhead's pilgrimage. A) Portique and Iron Cross. B) the Palladian bridge. C) Orangerie. D) Temple of Flora. E) King Alfred's Tower. F) grotto. G) Pantheon. H) Temple of Apollo. I) Hermitage. J) villa. K) Apollo Belvedere statue on a mound. L) obelisk. (Drawing by author.).....	106
4-49	Stourhead circle segments in red. (Drawing by author.).....	106
4-50	Outline of Stourhead's plan. A) Outline with architectural features in solid black. B) Coded circles and squares of architectural features, with sight lines of set views shown in dashed red lines. (Drawings by author.).....	107
4-51	Stourhead circles. A) Sight lines and original complete and partial circles. B) Completed circles, including those implied by sight lines. (Drawings by author.).....	107
4-52	Stourhead squares. (Drawing by author.).....	108

4-53	Triangles at Stourhead. A) Triangles implied and complete. B) Tower plan and partial/implied triangles completed. (Tower plan by author from plan in Woodbridge, 1982, p. 60).....	108
4-54	Stourhead synthesis. A) Overlay of isolated elements. B) Overlay refined and color-filled. C) Triangular feature color-filled. (Drawings by author.).....	109
4-55	Map of Stourhead's pleasure garden with abstracted plans of added buildings and monuments. (Photograph of map by Sara Katherine Williams, (Drawings by author.).....	110
4-56	Plan of Temple of Ancient Virtue at Stowe with cross connections drawn. (Drawing by author.).....	111
4-57	Plans of two of Stourhead's features. A) The Hermitage. B) The Grotto. (Drawings by author.).....	111
4-58	Stourhead synthesis. [Drawing by author is interpolated from a 1785 map of the grounds (Woodbridge, 1982, p. 15) and a 1779 map of the Pleasure Garden at Stourton by F. M. Piper (Woodbridge, 1982, p. 44).].....	112
4-59	Visual paths at Stourhead. (Drawing by author.).....	113
4-60	Designed triangular elements at Stourhead. (Drawing by author.).....	113
4-61	Composition with Red, Yellow, and Blue (c. 1937-42) by Piet Mondrian. (Drawing by author).....	115
4-62	Diagram of Wassily Kandinsky's A Few Circles. (Drawing by author.).....	116
4-63	Triangular garden at the Villa Noailles by Gabriel Guevrekian. (Drawing by author).....	118
4-64	Three plans for an urban garden by Paul Vera. (Drawings by author.).....	119
4-65	1934 student project by Garrett Eckbo, University at California at Berkeley Design Archives. (Photographs by author.).....	120
4-66	Thomas Church's plan for the Donnell garden, University of California at Berkeley Design Archives. (Photograph by author.).....	121
4-67	Four of eighteen designs from Garrett Eckbo's senior thesis project, University of California at Berkeley design archives. (Photographs by author.).....	122
4-68	Four of Eckbo's twelve FSA plan explorations, University of California at Berkeley design archives. (Photographs by author.).....	122
4-69	FSA design by Eckbo. (Photograph by author.).....	123
4-70	Goldstone garden by Garrett Eckbo, 1948. Design archives of the University of California at Berkeley. (Photograph by author.).....	123
4-71	Modern art and Garrett Eckbo. A) Diagram of <i>Axl II</i> , Laszlo Moholy-Nagy, 1927. B) <i>Project for Two Neighbors</i> , Eckbo, mid-1950s. University of California at Berkeley design archives. (Drawing and photograph by author.).....	124

4-72	Line drawings of Goldstone garden. A) Line drawing of plan. B) Coded outline. (Drawings by author.).....	125
4-73	Isolated circles in the Goldstone garden. A) Partial and complete circles. B) Incomplete circles completed. (Drawings by author.).....	125
4-74	Isolated squares in the Goldstone garden. A) Rectilinear elements. B) Partial and implied squares completed. (Drawings by author.).....	126
4-75	Isolated lines that create triangles. A) Whole and partial triangles. B) All triangles completed. (Drawings by author.).....	126
4-76	Synthesis of completed elements. A) Overlaid circles, squares, and quartering lines. B) Refined and color-filled synthesis. (Drawings by author.).....	126
4-77	Goldstone garden by Garrett Eckbo. (Drawing by author.).....	127
4-78	Synthesis of overlaid circles, squares, and triangles from the Goldstone garden's inventory. (Drawing by author.).....	128
4-79	The Bagel Garden by Martha Schwartz, 1979 (Drawing by author.).....	131
4-80	Plan for the Columbia Center by Martha Schwartz, 1990 (unbuilt). (Drawing by author.).....	132
4-81	Dickenson house by Martha Schwartz, 1991-1992. A) Plan. B) Coded mandala elements. (Drawings by author.).....	134
4-82	Dickenson garden's circular elements. A) Existing. B) Completed. (Drawings by author.).....	135
4-83	Dickenson garden's rectilinear elements. A) Existing. B) Implied squares completed. (Drawings by author.).....	135
4-84	Dickenson garden's crossing lines. A) Existing. B) Completed. (Drawings by author.).....	136
4-85	Synthesis of the Dickenson garden's inventory of mandala elements. A) First overlay of circles, squares, and crossing lines. B) Color-filled refinement. (Drawings by author.).....	136
4-86	Dickenson garden's crossing lines. A) Existing. B) Completed. (Drawings by author.).....	137
4-87	Rio Shopping Center by Martha Schwartz; Atlanta, Georgia; 1988. (Drawing by author.).....	138
5-1	Traditional mandala examples. (Drawings by author.).....	143
5-2	Paradise extracted mandala. (Drawing by author.).....	144
5-3	Medieval extracted mandala. (Drawing by author.).....	145
5-4	Villa Lante's synthesis/analysis. (Drawing by author.).....	146

5-5	Rotating circles. (Drawing by author.).....	146
5-6	Swirling squares. (Drawing by author.).....	147
5-7	Garden mandalas. A. Circles and squares. B) Circles on a central axis. (Drawings by author.).....	148
5-8	Comparison of Taj Mahal and Lante. A) Taj Mahal plan. B) Lante parterre. C) Lante synthesis. (Drawings by author.).....	149
5-9	Preeminent squares/rectangles. A) Background squares/rectangles. B) Rotating mandalas with rotated/whirling quartering lines. C. Overlapping squares/ rectangles. (Drawing by author.).....	150
5-10	Stourhead synthesis. (Drawing by author.).....	151
5-11	Diagrammatic plan of the Villa Noailles garden, 1927, by Gabriel Guevrekian at Hyeres, France. (Drawing by author.).....	153
5-12	Goldstone garden by Garrett Eckbo. (Drawing by author.).....	153
5-13	Goldstone synthesis. (Drawing by author.).....	154
5-14	Eckbo's wall for the Goldstone garden. A) Notated elevation on yellow trace paper. B) Close-up of the wall. C) Wall with pool house and pool. D) Elevation of wall. University of California at Berkeley Design Archives. (Photographs by author.).....	155
5-15	Dickenson garden by Martha Schwartz. A) Plan. B) Synthesis. (Drawings by author.).....	156
5-16	Painted yellow circles at the Littman wedding by Martha Schwartz. (Drawing by author.).....	157
5-17	Isolated circles from the inventories of the seven gardens in this study. (Drawings by author.).....	158
5-18	Isolated squares and rectilinear elements from the seven gardens included in this study. (Drawings by author.).....	159
5-19	Isolated axes and triangular elements from the seven gardens included in this study. (Drawings by author.).....	161
5-20	Syntheses from the seven gardens included in this study. (Drawings by author.)....	162
5-21	Collective archetypal mandalas and mandalas extracted from the syntheses of the seven gardens in this study. (Drawings by author.).....	164
5-22	... Correlations among garden syntheses. A) Idea-dominated designs in pre-Baroque garden syntheses. b) Nature-culture conflicts in post-Baroque garden syntheses. C) Mediating Baroque synthesis. (Drawings by author.).....	167

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The objective of this study is to answer two questions: 1) Is there a mandala pattern(s) contained within each garden's plan? 2) What does a Jungian interpretation of extracted mandala components underlying each garden's plan reveal psychologically?

There were three steps in the methodology. First, mandala elements; circles, squares, and quartering axes; in each garden are inventoried. Together, the circle (culture/spirit) and square (nature/matter), quartered, represent wholeness. Second, these individual elements are overlaid to form a synthesis figure for each garden. Third, psychological interpretations of circle/square relationships reveal attitudes toward nature and culture.

Results of the psychological interpretations are briefly summarized below:

The Paradise garden has a mandala plan revealing attitudes close to the originating archetype. Spirit is the central focus but physical aspects are also honored.

The Medieval garden's mandala plan deviates further from the originating archetype. Nature begins to compete with culture for dominance.

The Renaissance garden's synthesis contains a complex mix of circles and squares with circles dominating. Ideas are sparked by scientific discoveries, indicated by rotating squares within spiraling circles. Attitudes toward nature and culture are in flux.

The Baroque garden's synthesis consists of rotated squares enclosing circles, indicating that nature is dominant but that attitudes are changing. Rotated quartering lines reinforce this.

The English landscape garden's synthesis contains triangles and circles, with circles enclosing large triangles, placing conflict within cultural attitudes. Squares are found only within the traditional plans of architectural follies.

The Modernist garden's synthesis contains dominant circles/ideas surrounding a large un-rotated square, representing the stability of nature. A large triangle within this square reveals conflict with a nature controlled by ideas.

The Contemporary garden is a mandala plan very different from the first two. Five circles anchor the corners of three squares and float above a rigidly-organized grid. A triangle reflects conflict within cultural attitudes. Squares are a compensatory projection for a conscious attitude that sees ideas as all-important.

This study concludes that mandala elements are found within the analyzed garden plans and that a Jungian-based psychological interpretation of patterns reveals attitudes toward nature and culture for each garden's time and place.

## **CHAPTER 1 INTRODUCTION**

According to current thinking in developmental psychology, evolutionary psychology, and cognitive archaeology, what we are *now* -- at least psychologically - is what we *were* when we were primitive hunter-gatherers. As discussed in Chapters Two and Three, researchers speculate, with some evidence to back it up, that in those distant days our mind's functioning was set. As a professor of landscape architecture, I see that design consists of visual patterns that begin with thoughts that first occur in the ephemeral realm we call the "mind." This observation, coupled with the above speculations, provoke a number of questions. Foremost is, if our mind is psychologically the same as in ages long gone, are the visual patterns we produce when we design essentially the same now as they were in the earliest days of human history when the mind's functioning was set?

### **Psychological Issues**

As someone with a long-standing interest in the theory formulated by Carl Gustaf Jung, I am fascinated by the idea that what we design today may be influenced -- even controlled? -- by the thoughts and actions of our behavioral history. As a teacher of design and an individualist, I balk at the idea that all we *are* is what we *were* eons ago. Does not, would not, the changes in our science and culture, over time, also influence what and how we design? Would that not mean that the visual patterns of the designed landscape change in response to what is happening in the present? And, if indeed our mind's functioning is truly set hundreds of thousands of years ago, can the imprint of ancient ancestors still be seen in what we design today?

In other words, if we are psychologically much the same as our primitive ancestors, will the visual patterns in designs reflect an underlying and similar structure that originated long ago, while also reflecting the individual attitude of the designer, formed by present circumstances? This question encapsulates the essence of the research in this study and, to my knowledge, this question has not been previously addressed by the design community. Such a study grows out of an analysis of elements contained within selected designs that have been physically manifested, and it is grounded in a Jungian view of the structure and functioning of the mind or psyche, as correlated with current theories in developmental psychology, evolutionary psychology, and cognitive archaeology .

Jungian theory contains a well-documented body of research and thought concerning the structure of the human psyche, but again, to my knowledge, there has not been an in-depth attempt to apply Jungian theory to an analysis of the built landscape. Designers have certainly used Jung's psychological theories to inform their own decision-making, however. English landscape architect and author, Geoffrey Jellicoe (1900-1996), frequently applied ideas derived from Jung's principles to his design work, as seen in a proposed design for Moody Gardens, a largely unrealized project for a botanical garden at Galveston, Texas, that is discussed in more detail later. (Jellicoe, 1989) (The Moody Gardens at Galveston today does not follow Jellicoe's elaborate design.) To my knowledge, there has been no attempt to correlate Jung's discoveries with those in developmental and evolutionary psychology or with those in cognitive archaeology.

Among the founding principles on which Jung (1959) based his analytical psychology is the premise, documented by years of both research and work with patients, that certain patterns carry psychological significance beyond their simple, visual embodiment. In some cases, this significance appears to exist in all humans, despite differences in cultural orientation and/or time period in which an individual lives. Jung (1954) calls these common, symbolic patterns "archetypes" and writes that they are "universal images that have existed since the remotest times" (p. 5) It is among such universal images, such archetypes, that this study looks in order to discover whether or not a common, underlying structure, carried from the past into the present, is found. An in-depth discussion of this concept is included in Chapter Two.

The plans of selected landscape architectural designs through Western history are visually analyzed in this study for a linking pattern. Such a "thread of underlying pattern" must embody what Jungian theorists have found to be a universal symbol or archetype. In other words, it must contain a certain visual arrangement of elements that, together, are archetypal according to Jung. This means that they universally evoke certain thoughts and feelings in an observer that are specifically associated with that individual archetype. In order for one design to be symbolically the same as another design, so that the same emotional response is aroused, the visual elements that make up such designs must be similar, at least in some aspects of their underlying structure. However, if they also reflect the containing culture, the details of their design are different.

At first glance, this seems to be leading to a discussion of the traditional “nature/culture” dichotomy. How much of what we design is the result of our ancestors’ experiences, and how much is the result of our own individual experiences? The question becomes, in this case, not the old “nature versus culture,” but, rather, nature *and* culture, and where do they meet? Where does the intersection occur where one takes over and the other leaves off? An examination of the visual patterns of manifested designs, such as those occurring in the landscape, may well give clues that generate answers to these and other as yet unasked questions. Are designed patterns the result of long-past interactions by our primitive ancestors with their world? If there are recognizable patterns that have been a part of design since earliest times, are these patterns the same today as they have always been? If they are changed, how are they changed? If these questions can be reasonably answered, then the traditional conflict between those who say we are mostly creatures of instinct and those who believe in an individualistic determination of behavior is further defined and minimized. The question as framed here, from a Jungian perspective, further deviates from a nature/culture discussion and becomes an analysis of objects or patterns for both their *collective* and *personal* characteristics:

### **The Collective and the Personal**

The collective in this context refers to a characteristic or visual pattern that is common to all members of our species, regardless of race, gender, or individual peculiarities due to place or contextual attitudes. It is due to the “nature” of the individual. An archetype is a collective symbol because it arouses the same responses in all humans regardless of societal context.

The personal refers to a characteristic or visual pattern that is unique to one individual and grows out of the interactions between his/her psychic orientation and the specific circumstances of home, family, and larger context in which s/he matures. Such uniqueness is due to the “culture” of a particular time and place, with its subsequent influence on a person’s attitudinal development.

The difference between collective and personal can be illustrated by looking at two projects by well-known designers: Geoffrey Jellicoe and Isamu Noguchi. The aforementioned Moody Gardens, proposed for the island of Galveston, Texas, in the Gulf of Mexico, is an example of a project consciously designed around the use of collective, archetypal symbols. Conceptually, a series

of gardens were designed to let visitors experience; through a re-presentation on the site; Geoffrey and Susan Jellicoe's *Landscape of Man* (1995) from humankind's first beginnings up to the nineteenth century. (Jellicoe, 1989, p. 19) This was to be accomplished by letting visitors walk a path or travel by "water-buses" down a waterway from which they would view set landscapes. In a few instances, visitors were to disembark and visit particular sites: book store, tea shop, the "caves of Lasceaux." Throughout the voyage, various objects were to be used as symbols to convey a desired meaning, and the set pieces were to communicate the "essence" of a garden or landscape of the designated period. Some of the symbols were also metaphors for age-old themes of human history. One object combines all of these -- a giant Apple that, in Jellicoe's words, has "fallen from the Tree of Knowledge," placed at the entrance. (Jellicoe, 1995, p. 394) It was to symbolize the Garden of Eden, the metaphorical beginning of the human race in the Christian myth, as well as literally marking the beginning of the tour for visitors.

Unfortunately, images like the giant apple, and others such as a giant Demeter and Poseidon "peering from outer space" over a wall, reveal Jellicoe's success in designing a garden of the collective. (Jellicoe, 1995, p. 395) They are banal, without connection to the containing culture or surrounding context. Collective symbols are, by definition, impersonal images; they cannot be anything else and be common to all human beings, regardless of time and place. They become personal when they go through a transformation during the creative process, taking on details that are reflective of the individual and his/her containing culture. A garden based solely on collective images and symbols does not undergo a transformation into the personal. In this case, Jellicoe's description of the garden with its water-bus rides and passively-viewed scenes are more indicative of Disney's Epcot Center than of an artistic interpretation of humankind's historical landscape development. Since Spens (1992), a close associate of Jellicoe's, writes that Moody Gardens is not a theme park, this is evidently not the first time such a criticism has been leveled at the proposal. Perhaps this is why the garden, as Jellicoe conceived it, was never realized.

An example of the personal manifested, and in stark contrast to Moody Gardens, is Isamu Noguchi's *California Scenario*. This garden is based on a single conceptual idea with many elements, as is Jellicoe's Moody Gardens. The physical scope and time scale of the two projects

differ markedly, but, despite this, the transformational process to which Noguchi subjects his elements accounts for many of the overall differences. Noguchi, a sculptor, unifies the elements of his design into a simple, yet symbolically complex, minimalist design. As a Western garden containing the “Zen qualities of Japanese landscape design,” it maintains symbolic roots with its past, yet it is also connected to the culture that contains it. (Lyll, 1991, p. 163) With seven elements representing the topographic diversity of California, it also connects to its cultural context.

One of the seven elements is a sculpture entitled the Spirit of the Lima Bean, in honor of Noguchi’s patron whose family grew lima beans, and it represents California’s agricultural industry. The physical ambiguity of a pile of squarish, rounded stones, coupled with its name, could be interpreted in any number of ways by visitors. Compare this to Jellicoe’s sentimental construct of a giant apple. As a symbol of the collective myth of the human race’s beginning, albeit Christian only, it has undergone no transformational process. It is certainly not connected to the cultural context of Galveston Island, with its rich frontier and coastal heritage, as Noguchi’s design is connected to its Californian heritage.

Jellicoe’s and Noguchi’s two gardens illustrate the differences between a project that is deliberately designed to represent the collective and one that is deliberately designed to connect to culture and site. I am interested in combining these two perspectives and analyzing selected landscape designs for both their collective and personal characteristics.

### **Selection Process**

As a profession, landscape architecture is extremely broad, encompassing the design and construction of everything from small personal gardens to public plazas to large-scale commercial developments, from the planning and layout of new communities to the design and planning of entire systems of roads and highways. The necessity of focusing attention on a particular type of designed landscape, with selected examples from a period or periods, in order to conduct an investigation is the first decision to be made in designing this study.

Large-scale commercial projects, as well as road and highway designs are eliminated immediately from consideration. In many cases, the functional requirements of design take the lead in these, making them unsuitable for an analysis of universal visual patterns within this context.

Works such as public plazas and community and urban planning projects are also removed from a prospective list. Most of these projects are collective by definition, since they belong to society as a whole. Additionally, they are frequently the result of “design by committee,” rather than the output of a single individual, which may result, though not necessarily, in an impersonal rather than a personal design as required here. After some thought, gardens are selected as the optimal choice. They are often designed for and/or by individuals, and in many, if not most, cases, they are individualistic expressions of the designer. Such individualistic expressions will contain patterns that are personal, that are initiated and grow out of one person’s psyche. It is these types of designs that must be analyzed for the collective patterns they contain.

Selecting the period or periods from which to choose gardens is the next task. An exploration of designed visual patterns that are hypothesized to be both of nature and of culture, both collective and personal, can, if approached from the collective perspective, encompass the entire breadth of human history, an obviously impossible task! If approached from the personal side, a study of landscape architecture during any time period in any country is valid. However, since I am interested in collective patterns as manifested through history, the answer lies somewhere between the two extremes -- more than one period but certainly not all. The selection is therefore confined to those cultures that influence Western garden design for the simple reason that I live and work in the United States, a Western culture, and this is the genre with which I am most familiar and that I am able to research.

Gardens first become a recognizable form, in the modern sense, when agricultural irrigation patterns surrounding towns were brought inside city walls in valleys such as that formed by the Tigris and Euphrates Rivers in what is now modern Iran. (Jellicoe & Jellicoe, 1995) These patterns produced gardens divided into quarters by canals, central fountains, and cooling shade and flourished during the Persian Empire, the dominant power in Western Asia for over a thousand years. In the seventh century A.D., Persia was conquered by Islam, and the Muslims saw in the Persian garden the embodiment of all that the Quran promised in their life-after-death Paradise. Thus the Paradise garden came into being (Brookes, 1987) The pattern of this garden is adopted by many cultures in the ancient world, as well as appearing in walled gardens of the European Middle Ages. (Rogers,

2001) Therefore, it seems reasonable to begin the analysis with the Islamic Paradise garden because, even though the Islamic culture is not Western, it influences our garden form significantly.

When Islam conquered and occupied Spain, the Paradise garden became part of the new culture and a source of inspiration for travelers from other parts of Europe. Thus the Muslim occupation of Spain was one of the routes through which the Paradise garden entered the West. From here it traveled into medieval cloister gardens, its symbolism becoming Christianized in the process. In order to trace this progression through Western garden history, the walled cloister garden of the European Middle Ages will be subjected to analysis next.

Gardens of the Renaissance and the Baroque eras follow those of the Middle Ages and, as important and recognizable eras in the history of garden design, must be included in any analysis of Western garden patterns through history. The design principles established during these periods spread through much of the western world in the years following their high points in Italy and France respectively. (Rogers, 2001) These periods are famous for their palatial gardens, many of which are documented and some excellent examples of these design genres survive to this day.

A supreme embodiment of Renaissance design is the garden at Villa Lante, c. 1568-1579, in Bagnaia, Italy, thought to be designed by Giacomo Barozzi da Vignola. Villa Lante was built by Cardinal Giovanni Francesco Gambara but is named for the Lante family who owned it in the seventeenth century. (Rogers, 2001, p. 142) It is most often cited when a single example of Renaissance garden design is evoked. (Jellicoe & Jellicoe, 1991, p. 155) For this reason, Villa Lante's garden represents the Renaissance and is analyzed in this study.

For essentially the same reasons, Vaux-le-Vicomte represents the Baroque period. As Rogers (2001) states, Vaux-le-Vicomte's "*château* and garden . . . epitomize the French classical style." (p. 169) Jellicoe & Jellicoe (1991) concur with Rogers' assessment.

The next major change in garden design occurred during the nineteenth century with the advent of the English landscape garden. During this period, hundreds of private English gardens in the Renaissance and Baroque style were destroyed and replaced with large expanses of rolling parkland. These are as much a political statement against the French as they are a statement of English belief in nature as natural and good, instigated and supported by English writers, theorists,

and artists of the day. (Jellicoe & Jellicoe, 1995) These landscapes are deliberately naturalized, and, although highly designed, are planned so that major elements appear to be planted by nature itself. Trees are in randomized clumps; lake edges are softened with vegetation and appear as a river or stream that disappears around a curve in the landscape. The English School idealized nature, and sought to reproduce it without the untidy and sometimes unsightly aspects of real nature. A supreme example of the early English landscape garden is at Stourhead, designed by owner Henry Hoare II between 1744 and 1770. According to Rogers (2001) Stourhead is in an excellent state of preservation and “evokes more completely the mood of an eighteenth-century Golden Age Elysium than any other garden in England.” (p. 246) For this reason it is selected for this study.

Other periods were eliminated because their designs are derivative of earlier eras, without a clear cultural focus of their own. Generally, the Victorian era and American garden design until the Modernist revolution fall into this category.

The period after the Industrial Revolution when modern art, then modern architecture, and, finally, modernist landscape architecture come into being is selected for analysis for several reasons. First, the visual patterns manifested during this period appear to be markedly different from those based in a Beaux Arts tradition, defined by Catherine Howett (1993) as the “manipulation of formal and ornamental conventions derived from classical precedent.” (p. 26) Since modernism embraces form over function and eschews applied ornament of any kind, there is a dramatic demarcation between these periods that promises a productive area of research. Additionally, I am, by reason of both training and inclination, a modernist, although I do not discount the importance of historical factors and/or the past in the creation of any design. Thus I am interested in this period and in seeing where a Jungian analysis of its patterns leads. An analysis of modernist gardens also serves as a comparison of contrasting styles with all of the preceding garden forms.

The focus is mainly on American modernist gardens. As in Europe, particularly France, the early years of modernist landscape architecture in the United States is a period of great change. Many experts place the name of Garrett Eckbo (1910-2000) on the short list of landscape architects responsible for ushering in the modernist era in the United States. He embraced modernist principles from his early days as a student at Harvard’s Graduate School of Design (GSD). Over the course of

his lifetime, he maintained a practice in the state of California, and a majority of his drawings and papers are housed in a collection in the Environmental Design Archives at the University of California at Berkeley. Eckbo's modernist orientation, his prolific output as a designer, his reputation as one of the founders of modernist landscape architecture in the United States, coupled with the accessibility of his archived work, make the choice of Eckbo reasonable. Not only is he noted for his garden designs, but he is known to have designed hundreds of them, many during the late 1930s and 1940s when modernism first appeared in American landscape architecture.

Finally, in order to carry the analysis through history into the present day, a designer from among those currently practicing landscape architecture in the United States is included. Martha Schwartz is an artist/landscape architect who has a fine arts degree from the University of Michigan and a landscape architecture degree from the Harvard Graduate School of Design. Her work is often cited when cutting edge and/or controversial designs are discussed. Elizabeth Meyer (1997), chair of the University of Virginia graduate Landscape Architecture program, sees Schwartz's designs as confrontations between the natural and the cultural, making them particularly appropriate here. A selection from her garden designs is, therefore, part of this study.

In the order of analysis and of their occurrence through history, gardens from the following cultures are selected for analysis and psychological interpretation according to Jungian principles:

- a Paradise garden -- the Court of the Lions at the Alhambra,
- a walled cloister garden of the Middle Ages -- the Cloister at Arles,
- an Italian Renaissance garden -- Villa Lante,
- a French Baroque garden -- Vaux le Vicomte,
- an English landscape garden -- Stourhead,
- an American Modernist garden -- Goldstone garden by Garrett Eckbo,
- a garden of a currently-practicing landscape architect in the United States -- Dickenson garden by Martha Schwartz.

If common elements are found in all of these gardens that is, in turn, linked to the pattern of a collective archetype, then a broad applicability of the findings can be assumed. Also, since modernist principles are still being applied by many currently-practicing landscape architects, and

since Renaissance and Baroque forms are still being reinterpreted today, the results of a comparison of gardens from these periods will have applicability for the present and for the future.

### **Collective Archetype Selection**

There are many collective symbols that can be investigated for their possible symbolic connections to a culture and to the human condition and that are also a part of a designed garden. As already mentioned, in Jungian terms such patterns, whatever their form may take, are known as archetypes.

A threshold, for example, may be a collective symbol and stand for much more than a simple entrance or exit. ‘On the threshold of . . .’ (life, new beginnings, and so forth) is a common phrase, evoking an emotional response that goes beyond the functional aspects of a doorway. An investigation into the visual expression of ‘threshold’ in the garden and how an arrangement of its components reflects common human themes or attitudes is possible. However, as a single component within a larger context, it would be difficult to find sufficient differences among thresholds, even among distinct historical periods, for a productive analysis. Since a garden is commonly seen as an enclosed area, a threshold is, by definition, a part of a garden or any segregated landscape. It has a function, regardless of any integral meaning. Its archetypal meaning or symbolism, and the pattern that its components take may be contaminated by its overt usefulness. At the least, separating function from symbolic meaning is likely to make an analysis of pattern difficult. The entire idea is further complicated if the question of applied decoration with its possibility of added symbolic significance were grafted onto the problem of separating meaning from function.

This confusion of symbolic meaning with function leads to a discussion of the typology of landscape forms. Type seems to refer to a group of objects categorized by their function or use rather than by their symbolic meaning. Franck (1994) discusses type as conceptual categories used to order places mentally. In this context, types are seen as places that physically create our experiences in the world. (p. 346) Places that are alike are grouped together, and individual places are treated as members of a particular “type” of place. If the form and shape of a type “create” our experiences, this precludes the possibility that the pattern of the form carries an inherent, collective meaning. “Threshold” becomes “doorway,” categorized by its use as an entrance or exit rather than by an

emotional response to a passage that marks the end of one kind of experience and the beginning of another.

Schneekloth and Franck (1994) further discuss type as existing “physically in the material world, imaginally in our aspirations and hopes about our place in the world, and conceptually in our thinking and intellectual work.” (p. 10) The differences among these reflect differences in orientation and focus, rather than reflecting pure or independent categories. (pp. 10, 17) Material types are physical fabrications in the landscape, created or modified to represent and reproduce the “dominant order and values of that society at that time.” (p. 19) Creating or modifying material place types that create in people specific attitudes and actions, and that promote certain interests and values implies a conscious use of form in order to foster behaviors that reflect a certain societal viewpoint. This view of typological form does not include a symbolic component; it takes a behavioral approach to design. It does not discuss type in terms of any particular pattern that its form may take. Examples of material types include categories like park, city, farm, street, forest, desert, river, and prairie. Threshold, as a doorway, is a material type.

Imaginal types, according to Schneekloth and Franck, may be represented in the world but can only exist wholly in the imagination. Examples of this type include frontier, utopia, American dream, and ideal home, among others. Although there are attempts to bring a utopia into physical existence, such as to live the American dream or to create an ideal home, these can only be approximations, according to this point of view. Day-to-day experience indicates that such attempted actualizations fall short of the original inspiration. Imaginal types may be collective archetypes, for yearnings for ideal places or ways of living have been common throughout human history and often inspire humans to action. However, such yearnings or themes do not usually have particular visual patterns associated with them, a necessary ingredient for purposes of this study.

An exception to this occurs when an attempt is made to physically express place as a utopian ideal. Although the idea of utopia appears to evoke a particular pattern, these patterns are representations of the collective and most often remain impersonal and static. As discussed earlier, if a pattern is impersonal and static, it cannot contain the details that reflect the characteristics of

cultural experience that by definition reflect a personal relationship with a particular place and time.

Borsi (1997) states it this way:

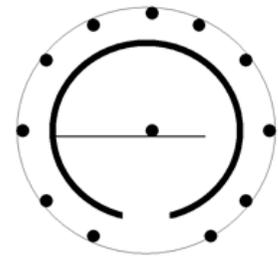
When utopians design a perfect social and political structure, their spatial formulation of it remains elementary, being based on geometric figures like the circle and square, on regular alignments, and on repetitive symmetry. When such plans are detailed or actually put into action . . . [they] are more evocative of concentration-camp repression, strict planning, and authoritarianism than of the vitality and natural laws they claim to respect. (p. 7-8)

Utopian types are not useful as the main focus of analysis for a study that explores both the collective and personal sides of archetypal expression. Other imaginal types that are not associated with a visual pattern or patterns are disqualified for this reason. Although an imaginal type when expressed physically is by its nature symbolic of the ideal or archetype that inspired it, the fact of symbolism is not sufficient, for purposes of this study, when there is no associated visual pattern.

Conceptual types, the third typological grouping proposed by Schneekloth and Franck, classify types for purposes of description, explanation, or regulation. These are analytical models to help describe and explain classes of objects or to serve as prototypes to be copied. They are abstracted types based on empirical criteria. (pp. 21-23) Their purpose is to classify the component parts of material and imaginal types for analysis. Such types do not carry symbolic meaning. Architects use conceptual typological analyses to compare existing buildings in order to understand them and in order to better design future buildings. (p. 22) Since conceptual types are not associated with specific patterns, they do not fall within the parameters of this investigation.

Despite the inclusion of imaginal types, which may include archetypes, Schneekloth and Franck's analysis of type is largely based either on function or on broad categories of use. Franck (1994) makes it clear that if a society wants to alter their dominant values and patterns, they must change the form of the types they use. (p. 346) Wolf (1994) also talks about redefining types. "The parking lot can become a plaza or a sports park; the gas station, a meeting place; the billboard a marker for the spirit . . . ." (p. 207) Again, type is discussed in terms of its use, not for its symbolic connections with an associated image or pattern. Typological analysis is thus not a useful tool in this study with its base of personal symbolism. It does not, in the large majority of instances, relate to an analysis of archetypal form.

With the above arguments in mind, a collective pattern or archetype that is an abstracted image already divorced from its original function or use, needs to be selected. This in large part prevents functional issues from clouding form and insures that there is no confusion between type and the chosen collective archetype. With this in mind, a mandala is the optimal choice. Many Jungian theorists believe the mandala to be the oldest archetype. (Jaffe, 1964) Its pattern is recorded in the earliest days of



**Figure 1-1.**  
African round house. (Drawing by author.)

human history and is part of the human experience in sacred artifacts and drawings. The plans of primitive housing, such as the African round house, is a mandala in plan, Figure 1-1. Preliminary research further reveals the mandala's presence in most major periods of Western garden design. The circle and/or the square are the basic elements of traditional mandalas and appear frequently in modernist gardens as well as Renaissance and Baroque parterres.

The meaning that is symbolically associated with the mandala is also appropriate for this study. Aniela Jaffe (1964), a close associate of Jung's at his Institute in Zurich, wrote that the mandala is a symbol of wholeness, with the circle a symbol of the psyche or spirit and the square a symbol of earthbound matter. (p. 249) The psyche controls our psychological perceptions of and experiences with the surrounding environment. These interactions influence the person we become and is the basis of the psychological *culture* in which we exist. Earthbound matter is *nature*. It refers to both our physical body and the physical reality of our surroundings and our planet, including the living world of plants and other animals. This division of the universe into two parts, that of matter and that of spirit is not new. In 1777, Joseph Priestley (1733-1804) published a book entitled *Disquisitions Relating to Matter and Spirit*. He was discussing matter and spirit as it related to religion in eighteenth century America. Certainly, anyone who has been exposed to Christianity has also been exposed to the concept of a weak and imperfect body (matter) and the soul (spirit), which is the human link to heaven. Long before that Plato discussed the material world (matter) as reflections of what he termed ideal Forms (spirit).

Since this study examines the personal and cultural expression of a collective archetype in a garden that is physically implemented, the mandala is particularly suitable for this research. As such,

circles and squares within the selected garden plans and the patterns that they form are the basis for the psychological analysis that is the focus this study.

### **Applicability**

What is under investigation here are a group of garden designs. Since the design process, whether applied to the landscape or to buildings, is much the same, and since design principles are similar for all aspects of the built environment this study is expected to have applicability beyond its landscape specialization. It is an exploration of the hypothesis that the abstracted or underlying pattern or form of a designed landscape such as a garden reflects collective and symbolic meanings while at the same time displaying changes resulting from the individual or personal experiences of a designer working and living in a particular culture. The gardens analyzed in subsequent chapters are a paradise garden, a walled cloister garden influenced by the form of the paradise garden, a garden of the Renaissance period following Alberti's principles, a garden of the Baroque period following le Notre's principles, a garden of the English School in rebellion against the formal French garden, a garden from the modernist period as exemplified in Garrett Eckbo's work, and a garden by currently-practicing landscape architect Martha Schwartz.

In this chapter, the parameters of the investigation are set. In the following four chapters, these parameters are further discussed and defined (Chapter Two), theories are clarified and correlated (Chapter Three), garden plans are diagrammed and interpreted (Chapter Four), and, finally, findings are summarized and conclusions drawn (Chapter Five).

## CHAPTER 2 THE STUDY

### Purpose

The purpose of this study is to discover what is revealed when the psychological theories of Carl Gustaf Jung are applied to a diagrammatic analysis of the visual patterns that are found in gardens representing major historical periods up to the present day. Specifically, the study analyzes selected garden designs from seven periods through history in order to determine whether or not components found in a collective archetypal mandala pattern are also among each garden's visual elements. This theoretical approach will result in a description of patterns and their Jungian interpretation. An archetype is defined as a pattern that occurs throughout human history and that carries the same meaning regardless of contextual particularities of time and place.

The research is guided by two major questions:

- **Is there a mandala pattern(s) contained within each garden's plan?** What circles, squares/rectangles, and quartered crossing lines are revealed by diagramming each element separately? When combined into a synthesis figure, what pattern(s) do they form? How does the expressed mandala pattern that is extracted from a synthesis differ from a collective and abstracted, archetypal mandala pattern?
- **What does a Jungian interpretation of the extracted mandala components underlying each garden's plan reveal psychologically?** What is implied concerning the psychological relationship with the cultural or spiritual side of human existence? What is implied about the psychological relationship with nature or the concrete half of human existence?

### Definition of Terms

In order to ground Jungian psychology, founded by Carl Gustaf Jung (1876 - 1961), in the context of current psychological thinking, theories and research findings in evolutionary psychology, developmental psychology, and cognitive archaeology are compared and correlated in Chapter Three. The following sub-sections define the relevant terms in each field and discuss their principle tenets for those who may not be familiar with them. This also serves as background and preparation for the coming comparative analyses and psychological interpretations.

#### Evolutionary Psychology

Evolutionary psychology is what its name implies -- a psychology that looks to human behavior as it evolved in the distant past to explain human behavior today. It stands on the simple fact that our ancestors lived in hunter-gatherer groups for several million years. Our pre-history is thus

the largest part of human history. For hundreds of thousands of generations we did not plant crops or domesticate animals. In evolutionary time, it is a mere ten-to-twelve thousand years ago that our ancestors' nomadic lifestyle transitioned to a more stationary one, and we began to stay in one place long enough to plant and harvest crops and keep domesticated animals. In more graphic and modern terms, this latest stage is like a blinking cursor on a single virtual page in the thick book of human evolution. As Professor Steen (n.d.) of the University of California at Santa Barbara writes,

It is in this forgotten history that we must seek the origin of the human. Agriculture and industrialization may have revolutionized our lives, but they are too recent to have had any effect on our basic cognitive abilities. . . . It is to the history that is forgotten that we owe the history we remember. (p. 1)

In seeking to explain why we behave as we do, problems met by our ancestors in primitive environments are reconstructed. What we did, how we survived, during the crucial hunter-gatherer stage is part of our evolutionary development and over time became basic human genetic encoding. (Spriggs, 1998, p. 1) It is important to see psychological traits as inherited just as physical traits are.

Science supports this evolutionary approach to psychology. There is a dramatic increase in brain size as the chimpanzee's journey to modern human is completed. Skulls from the distant past reveal the process in a series of stop-frame snapshots. As the size and complexity of the brain increased, new abilities or ways of judging and perceiving the world also appear that enable survival. (Mithin, 1996; Gore, 1997)

It is not an easy or short journey. Evolutionary history is revealed by various archaeological discoveries, of which "Lucy" is probably the most famous. An Australopithecine afarensis from between four and 2.5 million years ago, she was discovered by Donald Johanson in 1972 in Ethiopia and is the most complete hominid skeleton of her age. She is also considered the common ancestor of all later hominids including modern humans, even though she was not quite three-and-a half feet tall and lived in trees as well as walking upright. (National Geographic, March 1996, p. 96) As Lucy's skeleton proves, our ancestors' brain and body changed and evolved in shape and size, becoming better able to compete and survive in dangerous and primitive environments.

A core belief of evolutionary psychologists is that adaptations we make over such a long period of time causes areas of the brain to imprint with specific knowledge that enables adaptations to

local environments. (Spriggs, 1996) Research that correlates the mind's activities as well as physical activities with particular areas of the brain is evidence of this. Responses to the physical environment, for example, are based in particular areas of the brain. Speaking, an activity that involves the mind and the body, is based in still another area of the brain. Thinking is an abstract non-physical activity located in still another area that is not related to the previous two. Not only, then, are brain/mind and body based in a genetic inheritance from the distant past, but specific areas of the brain are involved in specific types of activities. Evolutionary psychologists often call specialized areas of the mind "modules."

The sequence above is summarized rather simply:

evolution --> genetics --> modules --> brain --> mind --> psychology.

The radical idea that our psychology evolved through a genetically-based process is generally accepted in psychological circles today but it has not always been so. As deWaal (1996) put it:

It is a curious fact about the intellectual history of the past few centuries that physical and mental development have been approached in quite different ways. No one would take seriously the proposal that the human organism learns through experience to have arms rather than wings, or that the basic structure of particular organs results from accidental experience. . . . (pp. 4-5)

However, this is just what happened -- or its equivalent -- when many early psychologists postulated how human psychology developed. "Social learning" theory often uses the computer as a metaphor for the way the mind works, comparing it to a machine, a "general purpose" instrument that operates according to unchanging principles regardless of the content on which it is operating. In this system, there are no pre-existing or built-in structures, no specialized processes, nothing to guide the mind's development or give meaning to the environment. All learning and development is seen as derived from the surrounding physical and social world. (Cosmides and Tooby, 1996)

Steven Pinker (2002); professor of psychology at the Massachusetts Institute of Technology, author of numerous books, and noted researcher on the psychology of language; devoted an entire book, *The Blank Slate: The Modern Denial of Human Nature*, to the harm such an attitude has on individuals and on our culture:

The refusal to acknowledge human nature is like the Victorians' embarrassment about sex, only worse: it distorts our science and scholarship, our public discourse, and our day-to-day lives. Logicians tell us that a single contradiction can corrupt a set of

statements and allow falsehoods to proliferate through it. The dogma that human nature does not exist, in the face of evidence from science and common sense that it does, is just such a corrupting influence. (p. ix)

For evolutionary psychologists the mind is never a *tabula rasa*. It is not a general-purpose device that can be trained to do almost anything. It is a “constellation of mechanisms organized in a hierarchical way -- all built specifically to serve . . . [human] needs.” (Gazzaniga, 1998, p. 36) In evolutionary terms, what our brains are built to do is to enhance reproductive success. (Gazzaniga, 1996, p. 19) Survival means at a basic and instinctual level the passing on of an individual’s genes.

In this model the mind contains a series of specialized cognitive processes that each enable a specific type of behavior. These modules are an inherent part of the brain, genetically “hard-wired” into its structure. Many distinct groupings of behaviors are identified. These include, among others, a concept of beauty, color perception, landscape preferences, language, mental maps, and social group reasoning. (Spriggs, 1998, p. 1-2)

To summarize, evolutionary psychologists hold that every human baby is born with genetically programmed software, a set of instructions common to all humans. These “instructions,” formed over millions of years of facing and adapting to the environment and to survival issues, are activated when appropriate circumstances occur or during the process of physical maturation. The phrase “during the process of physical maturation” is an important one. This area is a small part of evolutionary psychology, but is the basis for the entire field of developmental psychology.

### **Developmental Psychology**

Developmental psychologists study the process of maturation as humans grow from tiny helpless infants to adult members of society and conclude that the modular concept of mind formation is correct. It is the types of information contained in the specialized areas that is a primary target of much of the current scientific research in this field. More simply and succinctly, developmental psychology is the study of how and when humans change over their life span from birth to death. Most developmental psychologists agree that these changes occur through an interaction of heredity and environment, of nature and culture. It is a complex mix, a process that though holistic is impossible to study holistically. As a result many theorists concentrate on a single aspect of development. Most also focus on either cognitive, social, or physical aspects. (Hoffman et al., 1988,

p. 4) Relevant here is the cognitive research that identifies the contents of specific behavioral modules in our brain, just as in evolutionary psychology.

Evolutionary psychologists attempt to reconstruct the contents of the brain as it is manifested behaviorally during our hunter-gatherer days; developmental psychologists focus on the contents of the brain as it is manifested behaviorally after a modern human baby is born. The maturation factor is important in their research because the human brain triples in size after birth. The human brain literally grows into many of its abilities.

According to developmental psychology, the process of growth produces clearly defined changes, each with its own set of characteristics. Although there are differences in how age-related changes are interpreted, all developmental theorists agree that human growth and development is regular and that behavior is, at least potentially, predictable. (Hoffman et al., 1988, p. 48) Such predictable and regular changes are frequently discussed in terms of “stages.” A stage is undergone by all members of a species and is defined as follows:

- It is structured, with its parts linking in a cohesive pattern;
- It displays qualitative change, meaning that its behavior is radically different from the preceding stage;
- It appears abruptly with abilities, motives, and skills showing only a brief transition; and
- It displays concurrence, with abilities and behavior developing at about the same time. (Kaplan, 1988)

It may be deduced from the above that in order for “radically different” behavior to appear abruptly -- with only a very brief transitional period -- said behavior appears because it suddenly becomes available. In other words, brain growth or maturation enables the sudden activation of knowledge and/or abilities not previously available. The fact that both abilities and behavior develop at about the same time also strongly supports this. If our minds are a blank slate as early psychological theorists argued with abilities slowly developing as new behavior is learned it would be very different. The acquisition of a new behavior is more likely be a long and gradual process in this case, with stops and starts as new experiences are encountered, explored, and finally assimilated.

Such a view does not fit the findings of either developmental or evolutionary psychological research. The brain must be pre-structured and must contain “built-in” areas of knowledge in order

for a human child to develop in clearly documented stages with the characteristics outlined above. (Hoffman et al., 1988, p. 5-6) Young children simply learn so much about so many complex subjects and in such a relatively short time that they can not do so unless the mind is acting on knowledge suddenly available to it (Karmiloff-Smith, 1992) It all begins -- and ends -- with the brain and its maturational development. Nature and culture interacting, perhaps with some domains containing more built-in rules for learning and behavior while others are more sensitive to the surrounding environment, developing rules from external stimuli and as continuing experience dictates. (Karmiloff-Smith, 1992)

The brain growth/maturation factor is borne out by a discovery made by neuroanatomist Jeffrey Hutslar that a major thickening of the human cerebral cortex begins around eighteen months of age. During this period gray matter in the language region dramatically expands. (Gazzaniga, 1998, p. 57) This explains what any parent or observer of young children can tell you, at about the age of two children begin to talk. As the mother of four, I observed this amazing process as each son acquired words and rapidly progressed to verbal mastery with perfect grammar and sentence structure!

As the research with feral or “wild” children, those reared without human companionship, indicates language exposure is necessary for word use to begin. It is also now clear that at the same time exposure must be accompanied by a brain that is ready for it. (Karmiloff-Smith, 1992) Language doesn’t happen in a vacuum or to a brain that is a blank slate. The mind cannot form sentences until the language area of the brain is mature enough to make its built-in knowledge accessible. Noam Chomsky, one of the most significant researchers and contributors to the field of theoretical linguistics in the twentieth century, also found the fact of a “genetically fixed ‘language acquisition device,’ dedicated to learning language,” valid. (Mithen, 1996, p. 44)

One of those looking at the mind and its built-in modules from a different perspective is Steven Mithen (1996), author of *The Prehistory of the Mind: The Cognitive Origins of Art, Religion and Science*, who postulates four domains of intuitive knowledge. His book is one of the markers that occurred while I was researching Jung’s theories and their connections with other bodies of knowledge. Mithen’s theories grow out of a melding of archaeological research and readings in

psychology and have generated much discussion and debate. In the context of this research his conclusions on the specific intelligences developed by our ancestors are of interest.

### **Cognitive Archaeology**

As a cognitive archaeologist Mithen looks beyond the artifacts left behind by our ancient ancestors. He asks questions and forms conclusions about what is going on within early human minds, rather than simply how they look and behave. (pp. 11-13) He also looks at the archaeological patterns of their living in the context of ideas gleaned from readings in evolutionary and developmental psychology. In his words by putting archaeology and psychology together, he intends to “perform a union, the offspring of which will be a more profound understanding of the mind than either archaeology or psychology alone can achieve.” (p. 13)

Specifically, Mithen posits four behavioral domains that develop in the early human mind. These are based in the reality of a hunting-foraging lifestyle combined with the pattern of artifacts left as a result of the behavior of ancient humans. In Mithen’s order of development, they are:

- A social intelligence,
- A natural history intelligence,
- A technical intelligence, and
- A language intelligence.

### **Social intelligence**

In Mithen’s construct, social intelligence developed simply because group living fosters it early in our evolution, some 55 million years ago. (p. 94) Living together provides protection, makes food gathering easier, and gives more mating opportunities. Extensive social knowledge about other individuals in terms of “knowing who allies and friends are, and the ability to infer the mental states of those individuals” are the two centerpieces of social intelligence. (p. 82)

### **Natural history intelligence**

Mithen sees this intelligence as “an amalgam of at least three sub-domains of thought: that about animals, that about plants and that about the geography of the landscape, such as the distribution of water sources and caves.” (pp. 123-125) The first two sub-domains include among others; tracking game, reading signs in a forest, and remembering the location of game trails as well

as knowing the habits and habitats of animals. All of these are crucial to survival, enabling the finding of food and shelter in a hunter-gatherer society residing in a primitive environment.

### **Technical intelligence**

Technical intelligence for Mithen most likely begins with the use of found objects that make scraping and cleaning hides or breaking open nuts easier. Over time, these are crudely shaped into stone tools that fit the tasks better. Eventually, they become primitive weapons. Millions of years after tool use first appears, specialized tools and weapons become common. With the manipulation of stone and wood our ancestors brought symmetry and form into their world, creating artifacts that help them to survive. (pp. 117-118)

According to Mithen these three intelligences remained separate domains through much of our evolutionary history with language intelligence appearing last and much later. Even with such a separation among intelligences Mithen believes that complex behavior within each domain can be both acquired and modified but very slowly. He points to modern monkeys as proof of this. Their behavior reveals a mind with a well-developed social intelligence and a well-developed general intelligence. Monkeys also exhibit rudimentary tool use (technical intelligence) and way-faring (natural history intelligence) that is hypothetically similar to an early human mind.

### **Language intelligence**

Mithen sees language as originating in social intelligence. Eventually, over time and with use, it develops into a stand-alone separate domain. Current simian research indicates that much of the communication among chimpanzees and other simian groups is used socially although it is also used for danger warnings, food finds, and so forth. Evidence for the lack of language as its own domain is supported by the fact that there is no imprint of Werneke's Area, associated with language acquisition and speech, on the inside of early human skulls as there is with modern skulls. Speech, therefore, was rudimentary or non-existent during earlier stages of our evolution.

A key aspect of Mithen's theory is that, as language developed, its use expanded into areas other than the social arena. This caused information from both natural history and technical intelligences to slowly creep into social communications and, eventually, to break down barriers among all three. Mithen calls the resulting interaction among the now four domains 'cognitive

fluidity. (Johanson, 1996) (Mithin, 1996) Ultimately, Mithen finds that cognitive fluidity and the cross-contamination of information from all of the four modules that is responsible for art, religion, and science, which could not be created without the mixing of domains.

Jung did not address the idea of a modular brain, but he did discover the four functions of human personality. A discussion of these and a brief overview of his psychology follows.

### **Analytical Psychology**

According to Samuels (1997), Jung's thinking is a major influence on both the clinical and theoretical sides of psychotherapy and not just for those engaged in Jungian analysis specifically. (p. 1) On the other hand, Jungian theory is essentially omitted from academic curricula in all institutions but those devoted exclusively to its study such as the Jung Institute in Zurich, Switzerland. I received a Master of Science in Psychology and Counseling in 1989, and to my knowledge Jung was not mentioned in any available class. Even the texts to which I was exposed during a two year stint of post-graduate studies in behavioral psychology had at the most a few paragraphs on Jung and his theories. Samuels (1997) attributes this to three reasons:

- Freud's disparagement of Jung through a secret "committee" set up in 1912, the effects of which continue into the present day;
- Jung's anti-Semitic writings and "misguided involvements in the professional politics of psychotherapy in Germany in the 1930s . . ."; and
- Jung's outmoded attitudes toward women, blacks, and so-called "primitive" cultures that are unacceptable today. (pp.1-2)

In the years since Jung's death in 1961 at the age of 85 analytical psychology has evolved and in recent years begins to address the above problems. Currently there are three main post-Jungian schools: Classical, developmental, and archetypal. They draw upon a common pool of theoretical concepts and clinical practices while emphasizing certain elements over others. (Samuels, 1997, p. 8)

The classical school originated with Jung and was further developed at the C. G. Jung Institute in Zurich and other locations where most of the teachers and analysts, at least in the early years, were or had been in analysis with Jung himself. Hart (1997) notes that to be a classical Jungian analyst today "means, not so much to follow and repeat the terminology of Jung, as to embrace the general method of analysis" that Jung introduced. (p. 89)

The archetypal school was founded in the late 1960's and early 1970's by James Hillman and other Jungians, also in Zurich. As the name implies archetypal imagery is the source of analysis for adherents to its precepts. However, archetypal psychologists reject Jung's definition of archetype as an abstracted form without content as well as his use of the term itself. Their approach is imaginal or phenomenological. They use the adjective "archetypal" exclusively, believing there are "no archetypes as such . . . . There are only phenomena, or images, that may be archetypal." (Adams, 1997, p. 103) Any image may be archetypal; you only have to capitalize it and regard it that way.

The developmental school focuses on the development of the psyche in early childhood as well as on the nature of early interactions with an infant's caregivers. (Solomon, 1997, p. 119, 134) This school developed in London after World War II and often follows a model developed by Dr. Michael Fordham. (Solomon, 1997, p. 138-139) Since most of Jung's research and theorizing is concerned with developments of the mature psyche the clinical research leading to the establishment of the "London developmental school" does not generally conflict with Jung's theories but expand and develop an area largely neglected by Jung. (Solomon, 1997)

Jungian concepts of the classical school of analytical psychology are the basis for the analysis of patterns found in selected Western gardens. There are several reasons for this. First, the developmental school with its emphasis on early childhood is not relevant. Many of the concepts of this school are also developed for and are used in a clinical setting for the purpose of individual psychotherapy, which again is not relevant. Second, the archetypal school rejects the concept of a collective archetype as originally defined by Jung. Since this study is an investigation into whether or not archetypal components are contained within the pattern of selected garden designs through history its precepts do not fall within current parameters. Additionally, a phenomenological experiential approach does not permit the kind of abstracted intellectual analysis of patterns that is part of this research-based study.

Jung's theories grow out of observations with patients in his practice as a medical doctor and psychiatrist. He is an early protege of Freud's but breaks with him when Freud's theories on sexual development become the base for all of his work. Following is a brief synopsis of the major components of the psyche or mind, according to Jung's discoveries. It should be noted here that Jung

did not use the word “mind” because it implied to him only conscious aspects. His preferred word was “psyche” to mean both conscious and unconscious aspects. Thirty years after his death, the idea of an unconscious is generally an accepted fact according to a majority of my students. In this study, therefore mind and psyche are used interchangeably.

### **The psyche**

The psyche is not a “homogenous unit.” (Jung, 1959 & 1969, par. 190.) It is, however, the totality of all psychological processes and contains our consciousness as well as all unconscious aspects of the mind. (Sharp, 1991, p. 71.) The conscious portion of the psyche is based in the ego. When we say “I,” we are generally operating out of consciousness. Individual consciousness is “a superstructure based on, and arising out of, the unconscious.” (Sharp, 1991, p. 25.) The all-important unconscious is composed of two parts: The personal unconscious and the collective unconscious. The contents of the personal unconscious are potentially conscious because they are close to the surface of the unconscious. (Jung, 1968, p. 42) They range from painful or lost memories to content that is not ready for consciousness. They also reflect individual reality as we move through and interact with the psychological world within and the physical world without -- as a child, as an adult, as a member of a particular society. Another way to say this is that our thoughts and reactions to people and situations in the past influence and inform the details of present and future thoughts and behavior because of the input from the personal unconscious.

The collective unconscious, on the other hand, contains “the whole spiritual heritage of mankind’s evolution, born anew in the brain structure of every individual.” (Jung, 1970, par. 342.) “Collective” is defined as “[p]sychic contents that belong not to one individual but to a society, a people or the human race in general.” (Sharp, 1991, p. 15.) Jung explains this as follows:

In addition to our immediate consciousness, which is of a thoroughly personal nature, . . . there exists a second psychic system of a collective, universal, and impersonal nature which is identical in all individuals. This collective unconscious does not develop individually but is inherited. It consists of pre-existent forms, the archetypes, . . . which give definite form to certain psychic contents. (Jung, 1959 & 1969, par. 90)

This inherited structure sets the pattern for human behavior; in other words, the collective unconscious furnishes the parameters within which our behavior falls while the personal unconscious fills in the details of exactly what that behavior will be in its specifics. This is accomplished through

the activation of archetypes, which are the foundation of the collective unconscious. We are human; we behave as humans always behave because archetypes insure that we do. “It is not . . . a question of inherited ideas but of inherited possibilities of ideas.” (Jung, 1959 & 1969, par 136.) The old saying, “Nothing is original” remains true. However, the fulfillment of the ideas -- how they are actualized in a particular place at a particular time in history -- can be as original as any individual human. The pattern is archetypal; the implementation if it is true to the individual is unique. How this process occurs is discussed next.

### **Archetypal images**

An archetypal image or pattern influences thoughts and behaviors when it is activated, and it is activated when a situation or event is encountered that is similar to the contents of the archetype. The archetypal pattern/image comes into consciousness, and the current situation as well as past experiences (remember the contents of the personal unconscious) furnish the detailed associations that engender the thoughts and/or behaviors that then occur.

Archetypal images are universal, meaning that they are patterns or motifs that arise directly out of the collective unconscious that forms the structure of the mind for each of us. Within their patterns they carry the racial memory of how we behave or think in similar situations through the ages of our existence. Religions, mythologies, legends, and fairy tales are the result of archetypal patterns or motifs becoming active in a culture. (Sharp, 1991, p. 16.) This does not mean they are not valid or not true. In fact, it means just the opposite. How could they not be true of our species as a whole when the stories representing them arise spontaneously in societies and cultures throughout the whole of human history? The details change, but the structure of the story does not -- the pattern, be it myth or fairy tale, is the same.

As implied earlier, when an archetypal pattern is expressed physically it symbolically represents the originating archetype’s contents. The meaning of the contents adhere to or become an inherent part of the pattern’s structure through eons of usage as we encounter similar situations and feelings time and time again and, time and time again, use similar shapes and forms to physically express them. The shapes and forms eventually become associated with an abstracted archetypal version of the original pattern, and this is what is evoked when the archetype is brought forth.

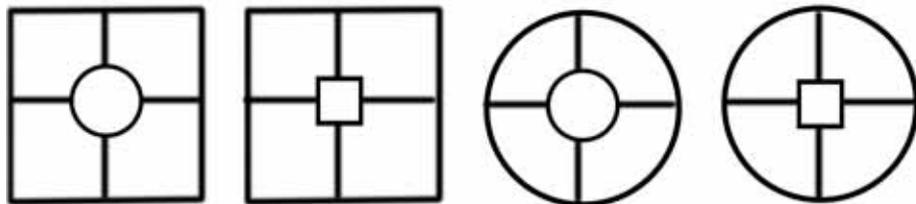
As a landscape architect, I am aware of archetypes that are associated with the design of the built environment. One of these embodies a forest and a clearing and generates specific designed architectural forms. Condon (1994) discusses the cloister, for example, as a “clearing with nature’s dynamic flux congealed. The trunks, branches, and leaves of the forest edge are petrified, they are the columns, the arches, the carved adornment of the arcaded edge.” (p. 87) The inner courtyard of a house or an intimate exterior space surrounded by shrubbery may represent symbolically a clearing in a forest if they engender the same kind of psychological response that our ancestors felt as they found safety and security and a living space in the clearings of ancient forests.

### The mandala

According to Jung (1964), the oldest physical expression of an archetype is the mandala, which images the archetype of wholeness.

Although ‘wholeness’ seems at first sight to be nothing but an abstract idea . . . , it is nevertheless empirical in so far as it is anticipated by the psyche in the form of spontaneous or autonomous symbols. These are the quaternity or mandala symbols, which occur not only in the dreams of modern people who have never heard of them, but are widely disseminated in the historical records of many peoples and many epochs. Their significance as symbols of unity and totality is amply confirmed by history as well as by empirical psychology. {Jung, 1969, par. 59.}

Specifically, a mandala is a pattern with a four-fold structure, usually square or circular, with a



**Figure 2-1.** Combinations of circles and squares that make up a mandala, each divided into four quarters. (Drawing by author.)

square or circle at its center. (Sharp, 1991, p. 74.) It is also “one of the most widespread archetypes . . .” (Jung, 1966, par. 405) Figure 2-1 shows the bare abstracted “bones” of a mandala pattern before it has been detailed by individuals who unconsciously evoke it.

Arnheim (1954), gestalt psychologist and author of *Art and Visual Perception*, supports Jung’s on the meaning of a mandala with the following although his approach is slightly different:

The development of pictorial form relies on basic properties of the nervous system, whose functioning is not greatly modified by cultural and individual differences. It is for this reason that the drawings of children look essentially alike throughout the world, and that there are such striking similarities among the early art products of different civilizations. A good example is the universal occurrence of circular,

concentrically arranged figures, to which Jung has applied the Sanskrit word 'mandala.' It is found in Eastern and Western art, in Egypt as well as in the drawings of children or American Indians. Jung refers to this pattern as one of the archetypes or collective images that appear everywhere, because the collective unconscious, of which they are a part, 'is simply the psychic expression of identity of brain structure irrespective of all racial differences.' . . . [S]uch patterns are able to symbolize deepest insights into the nature of the cosmos as they are intuited and shaped by the unconscious and the conscious mind. This demonstrates the unity of the mind, which needs and creates the same forms in the outermost layers of sensory perception and in the hidden core, from which dreams and visions originate. (p. 167)

This means that when we perceive objects and events, what we perceive is not simply our subjective viewpoint. There are dynamic qualities that come along with objects and events that give them a certain character in and of themselves. The contents of the collective unconscious that relate to an object like the mandala adhere to it regardless of what the individual's personal experiences are. The object/mandala is simultaneously perceived consciously and unconsciously. According to Arnheim (1977) the dynamic qualities of a shape cannot be described without also invoking its spontaneous symbolism. This symbolism is connected to the symbolism of the circle and the square. The circle is a symbol of psychic integration, of the psychologically-created world perceived consciously and unconsciously by human beings (culture); the square is a symbol of the physical world in which our body resides in real time, of the earthbound matter of this planet on which human beings evolved (nature). The mandala figure, in combining these, becomes a symbol of wholeness. (Jaffe, 1964) It thus reveals specific human attitudes toward both culture and nature when it is actualized in our artistic artifacts. A mandala pattern is only one way the wholeness archetype may be actualized, but it is the object of this qualitative study and is therefore the one that is the focus here.

The symbolic nature of a mandala is crucial to understanding its effect in our lives. Jung (1964) defines a symbol as words or images or situations that imply "something more than its obvious and immediate meaning." (p. 20) Although the two are sometimes confused Jung made an important distinction between a symbol and a sign. For example, an Insignia on a uniform is a sign that identifies the wearer. (Sharp, 1991, p. 89) A sign therefore conveys information while a symbol may represent something other than its objective reality.

Those situations/objects/people that are symbolic become "larger" than they may be because they activate similar contents in the personal or collective unconscious. A symbol has an objective,

visible reality that contains a hidden layer of meaning, as with a mandala pattern. Highly symbolic situations include births, deaths, weddings, and coronations. These emotionally-weighted events are symbolic of the continuation of the life process or the ending of it and so forth. When participating in such activities, similar patterns in the collective unconscious rather than the personal unconscious are activated, and we are connected to a psychic inheritance of millions of years of human experience, making these events fraught with meaning and emotionally powerful -- in other words symbolic.

Individuals also attract contents from the collective unconscious. Presidents and movie stars may seem heroic not because they have done anything especially brave or wonderful but because they arouse heroic echoes in the collective unconscious -- leaders are unconsciously expected to be heroic and to behave accordingly. Joseph Campbell (1972) in his 1940s book, *The Hero With A Thousand Faces*, wrote about the archetypal hero in myths that are constant through cultures. We still have such heroes in our own culture. John F. Kennedy is such an heroic archetypal figure, and, since his untimely death and even before, his life as well as that of his family took on the mythic symbolism of a royal family. John F. Kennedy, Jr., is often called the closest thing to a prince in America. President Kennedy's behavior as a young Lieutenant when his ship, PT 109, sank is also the stuff of true heroism -- meshing collective archetypal symbolism with reality. When a collective archetype, in this case the hero, and apparent reality mesh the result is particularly powerful and emotionally appealing. This is evidenced by the continuing fascination with Kennedy and his life and death decades later.

In garden design a mandala manifests itself when something in the attitude of the designer or something in the event or environment in which s/he finds him/herself evokes the archetypal node "wholeness." Because landscape architects work in a visual profession the evocation of the wholeness archetype probably results in a mandala pattern. The details of the mandala; the simplicity or complexity of its form, its colors, textures, and so on; result from cultural and individual influences interacting within the psyche of the designer. It is a melding of both conscious and unconscious attitudes. (Arnheim, 1977) When a mandala is directly manifested in a design the characteristics of its forms and their relationships reveal the designer's conscious and unconscious attitudes toward the nature and culture of his/her time.

At this point readers with no psychological background must take on faith that a mandala form carries these meanings. Such psychological data has no hard core supporting facts derived from traditional scientific experiments. Jung drew his conclusions from reams of empirical data, observations and experiential facts based on interviews with patients and other individuals. In the years since his death other researchers have corroborated his findings. (Arnheim, 1977; Gray, 1996)

One final note for this section: We have discussed the fact that archetypal motifs are patterns of thought or behavior that are common to humanity at all times and in all places throughout human history. (Sharp, 1991, p. 15.) We are human, and what makes us human is this underlying structure of collective archetypes that inform our thoughts and behavior, that ensure our psychological humanity. However, each of us is also unique and unlike anyone else. What differentiates us one from another is the input from the melange of our personal past and present experiences. The details of our living are perceived and judged through particular mind sets, which Jung discovered and which he called personality typology. Of all of his legacies, this is probably the best-known.

### **Personality typology**

This is the last piece of the puzzle in understanding what makes us who we are and is “one of the most comprehensive of current theories to explain human personality.” (Lawrence, 1993, p. 7) It is as noted above based in the theories of Jung. His psychological types are derived from patterns of behavior exhibited in the way people both see the world around them and make judgments about that same world. Such perceptions and judgments determine our behaviors from moment-to-moment. There are four pairs of opposites that make up Jung’s personality structure. They are: Extraversion-Intraversion, Intuition-Sensation, Thinking-Feeling, and Judging-Perceiving.

Extraversion and Intraversion determine an individual’s orientation to the exterior world of objects and activities. For an Extravert, the dominant function is turned outward. For an Intravert, the dominant function is turned inward. Judging-Perceiving determines which function is extraverted. For a Judging type, either Thinking or Feeling is external; for a Perceptive type, either Intuition or Sensation is external. A dominant function is simply that with which a person tends to be most comfortable and to use most frequently, thereby reinforcing its primary position in the personality. Judging-Perception deals with attitudes toward decision-making. A Judging type is

decisive and organized. They like to bring things to a definitive closure in a timely manner. A Perceiving type is open-minded and spontaneous. They try to stay flexible, putting off decisions until the last minute in order to take advantage of any changing conditions. (Lawrence, 1993)

Thinking and Feeling deal with how decisions are made. They are paired opposites, meaning that the processes they use to judge ideas and situations are opposing and mutually exclusive. It is impossible to make a decision using a Thinking process and a Feeling process at the same time. Because Feeling and Thinking are in direct opposition to each other, you cannot be in both at the same time. However, the dominance of one does not preclude the other. We use all of our functions.



**Figure 2-2.** A flower is beautiful is a judgment based on personal values. (Drawing by author.)

The dominant function is simply employed more frequently than the other three, and because of this it is likely to become more dominant the longer it is used. It is possible, depending on circumstances and the effort of the individual, for functions to become more evenly employed.

Feeling is the term for a “process of appreciation, making judgments in terms of a system of subjective personal values.” (Lawrence, 1993, p. 8) Someone whose dominant function is Feeling is attuned to other people, concerned with values, and makes decisions based on a personal value system rather than on an objective impersonal evaluation, Figure 2-2.

Feeling is not synonymous with emotion as are ‘feelings’ although emotions can be involved. A Thinking type (see below) can be as emotionally invested in his/her conclusions as a Feeling type.

**1 + 2 + 3 + 4 = logical answer**

**Figure 2-3.** Logically-derived judgments are based on impersonal principles. (Drawing by author.)

Intuitive and Sensate perceptions may also arouse equally deep and emotional associations. Emotions can and do become associated with any of the four functions. It is true that Feeling types generally are more in touch with their emotions and access them more easily than Thinking types.

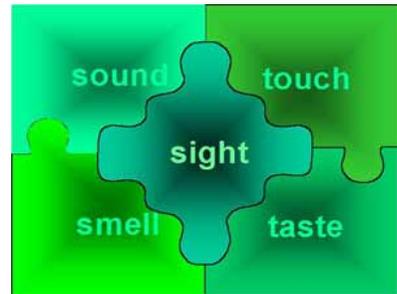
Thinking is the term used for a “logical decision-making process, aimed at an impersonal finding.” (Lawrence, 1993, p. 8) Meaning and understanding come through a consideration of facts

and figures, Figure 2-3. The Thinking process is impersonal, with decisions based on reasoned principles, on logic rather than on personal values.

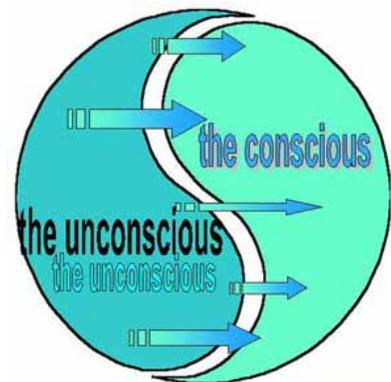
Intuition and Sensation deal with how a person handles information. They are both Perceiving functions that tell us about the world around us, but like Feeling and Thinking they use mutually exclusive processes based in radically different types of information. Although they cannot be used at the same time they may, in highly conscious individuals, be evoked consecutively as may Feeling and Thinking. It should be noted here that whichever function is in opposition to the dominant function is the most difficult to access consciously. Because it is opposite to the function that is used the most (dominant), it is therefore used the least and is the most primitive or least developed of the quadripartite constellation of perceiving and judging functions.

Sensation enables “perception of the observable by way of the senses.” (Lawrence, 1993, p. 7) Individuals with Sensation as their dominant function live in the present, a natural out-growth of the barrage of sensate information constantly received from their surroundings, Figure 2-4. They are practical, detail-oriented individuals who experience things as they are. The focus of an individual whose dominant function is Sensation is to the present, to what is happening in the here and now.

Intuition is used for the “perception of meanings, relationships and possibilities by way of insight.” (Lawrence, 1993, p. 7) Unconscious realities are perceived, often appearing spontaneously in the conscious mind with no apparent knowledge of their derivation, Figure 2-5. Intuition gives information on the atmosphere that surrounds all experience rather than the details of what is occurring. Theorizing and conceptualizing are their natural milieu as they orient on the “big picture.” An Intuitive often focuses on the future rather than the present.



**Figure 2-4.** Sensate perceptions are derived from a constant flow of information from the five senses. (Drawing by author.)



**Figure 2-5.** Intuitively-derived perceptions are from the unconscious. (Drawing by author.)

This is also the function that is able to see hidden meanings in even the most mundane happening or object. A thing or event can become a personal symbol for these individuals, whether it carries archetypal meaning or not.

In order to determine preferences in each of the functions above, an instrument such as the self-test Myers-Briggs Type Inventory (MBTI) is administered by an individual trained in its application and certified by those who produce the Inventory, such as the Center for the Application of Psychological Type in Gainesville, Florida. When the self-tests are scored an individual's choices to the questions present a picture of his/her behavioral preferences. These preferences result in a four-letter profile in which each letter stands for one of the pairs described previously, as follows: Introversion (I), Extroversion (E), Sensation (S), Intuition (N), Thinking (T), Feeling (F), Judging (J), and Perception (P). The sixteen possible combinations are: ISTJ, ISTP, ISFJ, ISFP, ESTP, ESTJ, ESFP, ESFJ, INFJ, INFP, INTJ, INTP, ENFP, ENFJ, ENTP, AND ENTJ. INTJ (Introverted-Intuitive-Thinking-Judging) is an example of a personality profile that also happens to be the most common profile of design principles in firms as well as university professors. (Myers & McCaulley, 1985)

Jung's construct, as outlined above, furnishes a comprehensive picture of our mind and personality and how it operates, and his theories remain dynamic and relevant today. Some of the terminology that he invented, such as "extroversion" and "introversion," are embedded in languages around the world. The MBTI further validates his personality typology in Western as well as Eastern cultures. In Chapter Three Jung's four functions are examined for connections to current research findings and theories in the other fields discussed in this chapter. Before this, however, there is another major element in this research to be defined and other elements to be considered.

## **Gardens**

Gardens are defined in various ways throughout the centuries. To a horticulturist it might be any place that nurtures for plants; to a home-owner any area set aside for pleasure and for growing things; to a poet a place for meditation with specific associations. To a landscape architect it is a unit of design that conforms to a personal aesthetic as well as functioning practically. (Hubbard & Kimball, 1929) Despite the differences among these associations with the word "garden" there are characteristics that all of them have in common according to Hubbard & Kimball (1929). They

broadly define a garden as “a man-made, bounded, outdoor area, containing plants.” (p. 233) This definition is adopted here. All garden selections that are analyzed are man-made outdoor areas with plants that are separated from their surroundings either by an implied or by a physical boundary.

This completes the definition and discussion of terms necessary for the research undertaken in this study. There are several additional areas directly relating to the organization and content of this research and its validity that are also relevant to this study.

### **Limitations of the Study**

This study is limited by several factors:

- It focuses on a Jungian analysis of certain patterns. The results of such an analysis are constrained by the fact that only the principles of classical Jungian psychology are applied. Other psychological schools of thought might produce a different set of explanations for the same work or are not designed to address such issues at all. This does not make one interpretation less valid than another or discredit an interpretation just because it is beyond the parameters of a particular paradigm. Just as a situation is interpreted differently -- or not seen at all -- when witnessed and subsequently described by several individuals, so might a psychological interpretation based in different schools of thought produce varying explanations for the same behaviors. The explanations grow out of the filtering principles applied and reveal different possibilities or aspects of the truth rather than the only possibility or the only truth.
- A Jungian analysis of garden patterns will not touch on the functional viability or artistic merit of selected works. Although such analyses provide important information in other studies they are beyond the scope of this one. A Jungian interpretation does not rest on whether the design functions well practically or experientially or whether or not the shapes and forms of the garden come together in an aesthetically pleasing manner. The present study rests solely on the meaning that is gleaned by looking at the abstracted pattern circles, squares, and crossing axes take in plan and the relationship to one another that their synthesis reveals psychologically.
- This study focuses on a succession of Western gardens representing specific historical periods. Collective archetypes by definition show themselves in all cultures and in all time periods throughout the world, a breadth of research that is clearly too broad to encompass in this study. Therefore the study is limited to gardens that are selected for their importance to the period in which they are manifested. The relevance of the gardens to their respective periods make their analysis also relevant to other gardens of their eras.

### **Significance of the Study**

This study investigates the visual characteristics of a succession of selected plans from major periods of Western garden design in order to get a picture of garden development over time. The following eras are represented: Paradise garden, Medieval walled cloister garden, Renaissance garden, Baroque garden, English landscape garden, Modernist garden, and a Contemporary garden. An analysis of the patterns formed by their components in plan infers whether or not they form culturally-specific mandala patterns. There are several ramifications to this.

- The analyses applied here can provide psychological insight into the meaning of garden designs today since many currently-practicing landscape architects look to the past for inspiration in their work. Thus the results of a Jungian exploration of the visual aspects of historic periods has applicability for the present and for future understanding of certain patterns that occur when gardens are created. This assumes that underlying visual patterns in each period, however changed, are shown to relate to visual patterns in other eras. It can then be concluded that a psychological linkage across time exists. If the components of these patterns do relate to the archetypal form of a mandala then there are certain psychological meanings that can be inferred.
- Since the design process, whether applied to the landscape or to buildings or to works of art, is similar, and since design principles are much the same for all aspects of the built environment this study is expected to have applicability beyond the landscape specialization, to any design discipline in which mandala patterns are expressed.
- If the particular form and/or shape of an individual mandala as expressed is related back to the influence of cultural factors at the time of expression, then it can be assumed that this type of visual archetypal analysis will provide interesting information on how a containing culture and a designer's point-of-view relate in their artistic output. What can be inferred is that because of the influence of certain cultural factors psychologically the mandala pattern at that particular time should occur in just this way or in a very similar way. Thus this study has broad applicability across cultures as well as across disciplines.

### **Assumptions and Rationale for a Qualitative Design**

The proposed investigation has the following characteristics: It asks “what” questions; it has no control over the behavioral events that produce the gardens analyzed; and it focuses on several historical periods. Yin (1989) in his seminal book on case study research lists these characteristics as calling for a qualitative design using a strategy of archival analysis rather than a strategy involving case studies, experiments, or surveys. (pp. 15 - 25)

Creswell (1994), an expert on qualitative design methodology and author of several articles and books on the subject, defines a qualitative paradigm as making the following five assumptions:

- **Ontologically, reality is subjective and multiple.** In other words, the same object may be perceived in many ways depending on the viewpoint of the observing individual. In the present proposal the objects under analysis are seen through the subjective lens of Jungian theory, a specialized focus not shared by everyone.
- **Epistemologically, the researcher interacts with that being researched.** Since the qualitative research often involves people and how they react in real-life complex situations, this assumption refers to the fact that a researcher may be immersed in the same situation as participants. Interviewing, a major qualitative tool, means that participants unavoidably exert some influence over the researcher and vice versa. Since this study calls for an archival analysis there is no interaction of this sort. The possibility of interaction does occur in the ultimate selection of one garden for investigation over another. This bias is counteracted by selecting gardens that are generally deemed prototypical examples of their historical period (Paradise, Medieval, Renaissance, Baroque, English landscape). In periods that are more current (Modernist and Contemporary) not enough time has passed for this kind of judgment to be made. However, Eckbo and Schwartz have received sufficient critical acclaim to justify their selection.

- **Axiologically, the research is value-laden and any bias is actively reported.** The proposed research is laden with values that I have developed over time and which predisposes me to see many things from a Jungian psychological and symbolic perspective. Both my personal experiences and those as a student of psychology have taught me that Jungian theory is a powerful tool for understanding conscious and unconscious processes in myself and in the world around me. My personal values and this understanding inform the analytical process in this study as well as the values and understandings that derive from leading theorists in the field of analytical psychology including C. G. Jung, its founder.
- **Rhetorically, it assumes that the research is informal with evolving decisions and a personal voice. It attempts to understand and/or discover meanings in events as they progress. Definitions may change to reflect new understandings of the situation under study.** In the present archival analysis definitions are not expected to change, particularly those grounded in Jungian theory. However, the crux of the research being conducted involves discovering and understanding the meaning of perceived patterns in the plans of selected gardens. In this sense, then, the present study does follow qualitative research guidelines.
- **Methodologically, it assumes that an inductive process is used, with emerging design-categories identified during the research process. Context-bound patterns and theories are developed for understanding.** In the present study contextual patterns underlying selected gardens are developed in order to understand their symbolic connection to the mandala archetype. Specific categories of garden elements may emerge as the pattern analysis proceeds. However, it is less inductive, particularly in Chapter One than many qualitative researches because of its grounding in a specific theory. In the following, Creswell (1994) supports this as a valid qualitative methodology:

[S]ome qualitative designs use a deductive approach to an introduction -- employing a theory to be examined or tested . . . . Thus, within some qualitative studies, the approach in the introduction may be less inductive and emerging while still relying on the perspective of an informant as in most qualitative studies. (pp. 44-45)

Mason (1996), author of *Qualitative Researching*, further describes qualitative research as emphasizing holistic forms of analysis and explanations based on understandings of complexity, detail, and context rather than simple correlations. (p. 3 - 4) The current examination falls under this umbrella. It does not result in a simple correlation or trend nor is it conducted as a straightforward one-to-one analysis. Its success depends on a grounding in the underpinning psychological theory and the application of this theory in order to understand the complexity, detail, and context of the visual patterns occurring in selected built environments of the past as well as the present.

## **Methods**

Methods include the manner in which data are collected, where the data are found or from where data are derived, how the selections are made for inclusion in this study, how the raw data are made ready for analysis, and, finally, how the analysis is conducted in order to have results that are valid. These are discussed in the following sub-sections.

## **Data Collection**

Due to the nature of historical data and lack of access in the present, data on selected gardens are gathered from books and articles on these periods. Plans of selected gardens are drawn in AutoCAD as are isolated mandala components and all analyses and syntheses. Photographs of Eckbo's work are mine from May 2000 and are his original drawings as stored in the Environmental Design Archives at the University of California at Berkeley. Due to poor light quality in the storage facility, all photographs are tweaked for sharpness, brightness, and contrast in Adobe Photoshop. Images are as intact as possible, so that reliability and validity of visual data are not compromised.

## **Data Pool**

Most of the collected data are from secondary sources, with the exception of Eckbo's designs, which are primary sources and in many cases are stamped, signed, and dated by Eckbo himself. Eleven projects contain plans by Eckbo during the 1930s or 1940s, his most prolific period for designing gardens.

## **Data Selection**

Chosen historical gardens are deemed prototypical examples of each of their respective eras. Anyone familiar with the periods being investigated will recognize the gardens being analyzed.

Some time has passed since Eckbo's death in 2000 but not enough for a true historical perspective on his work. However, in 1997 an exhibition entitled Garrett Eckbo: Modern Landscapes for Living opened at the University Art Museum in Berkeley. A book by the same name accompanied the exhibition, edited by Marc Treib and Dorothee Imbert. Eckbo collaborated on the volume and wrote an afterword for it. Treib, a professor of architecture at Berkeley and an acknowledged expert on Eckbo's work, writes that of the "hundreds of gardens designed by Eckbo . . . , the Goldstone garden in Beverly Hills serves as a typical, if extreme, example." (p. 77) Since other garden selections are based on designs that typified their period, it seems appropriate that the Goldstone garden, prototypical of Eckbo's garden designs, is selected for this study.

There is no historical perspective for judging the designs of Martha Schwartz, but her name is often included in discussions of the most influential practicing landscape architects in the United States. There are two books published on her work, *Transfiguration of the Commonplace* (Schwartz,

1997) and *The Vanguard Landscapes and Gardens of Martha Schwartz* (Richardson, 2004).

Although she has done many gardens, there are two in these books that are residential designs and that have a complete plan available for analysis, thus making them suitable for this study. They are: The Bagel Garden (1979) and the Dickenson Residence (1991). Other projects are either temporary installations, public and/or commercial projects, or are shown exclusively through photographs. The Bagel Garden is very early in her career and is, in fact, the first design that brought her to the attention of critics. (Meyer, 1997) The Dickenson Residence, as a more current design, is the selected garden.

### **Data Preparation**

Data analysis is based on a Jungian interpretation of visual elements and patterns found in the garden plans of selected gardens. The first step in readying the data for analysis is to outline each garden's plan. This facilitates the discernment of inherent elements/components/patterns. To this end, a digital reproduction of selected plans is imported into AutoCAD, and all components are outlined. Outlines of various elements, such as circles or portions of circles, lines, implied rectangles and/or squares, and so forth, are color-coded. Specific colors and coding are determined as their necessity becomes apparent during outlining. A non-color-coded outline of each garden also preserves a reference for the color-coded figure.

### **Data Analysis**

A synthesis of components from each garden is created. It is a four-step process. First, circles, squares, and quartering lines are diagramed separately for each garden. Second, implied or partial shapes for each element in each garden are completed. Third, this second more complete pattern of each component is overlaid to produce a synthesis. Fourth, the patterns thus created are interpreted psychologically, based on a symbolic reading of contained elements and what they imply about the containing society's attitudes toward nature and culture.

Based on the discussions in this chapter the design of this study conforms to the principles of qualitative research and conclusions are expected to be firmly based in an unbiased methodology. At the same time there are certain theoretical and experiential biases on my part due to training and my own psychological involvement in Jung's principles. These are not expected to interfere with the quality of the present research nor with the validity of research findings.

### CHAPTER 3 THE CONNECTIONS

My exposure to Jungian theory is the result of a personal search for understanding, which precipitated formal psychological studies and then the pursuit of degrees in architecture and landscape architecture. A continued interest in Jung's theories leads me to the present research, bringing together two passions: The design of the built environment and Jungian psychology.

The incorporeal and the corporeal, the psychological and the physical, are indissolubly intertwined in everything we are and everything we do. The designed environment is a manifestation of abstract ideas in a mind that is a product of tissue and blood and electrical impulses. The mind/brain interacts/reacts to surroundings that exist both in a concrete reality and in a perceived reality.

By subjecting particular built environments to a Jungian analysis rather than a typical design analysis that focuses on the harmony, balance, and so forth among elements it is my aim to expose the connectivity between reality and perception. Gardens are physical entities, implemented with living plants, rocks, and other materials. The patterns formed by these physical elements are created within the mind, the ultimate manipulator of symbols, and may therefore be interpreted psychologically and symbolically. This connection between physical pattern and psychological meaning is the basis for the analyses of garden patterns that is undertaken in Chapter Four.

The examination through a psychological lens, Jung's theory on collective archetypes, of Western gardens that exemplify their cultural era in history is by its nature esoteric and conceptual. This is particularly true, I think, to those unfamiliar with the precepts of analytical psychology, hence the discussion of Jung's psychology in the previous chapter under the Definition of Terms section. This chapter correlates Jung's work to the other bodies of research also defined in the previous chapter, grounding it in the present day. I am not attempting to justify Jung's research. This would be highly presumptuous and beyond the scope of this work. My goal is to discuss Jung's theories in light of the findings of research in certain other fields since his death, thereby updating as well as supporting Jung's principles, discovered by him almost three-quarters of a century ago. As a consequence of this the analysis of garden designs will also be grounded in research that is occurring today.

The idea that present theories can be directly correlated to Jung's theories began in my own mind several years ago when I was studying psychology at a Auburn University. What was, at first, a vague notion progressed to a preliminary assumption that is borne out in such diverse fields as evolutionary and developmental psychology and cognitive archaeology. What is fascinating to me is that the behaviors talked about in each field can be grouped rather neatly into the same four categories. They are:

- Connections to other humans,
- Connections to the concrete physical environment,
- Connections to universal principles, and
- Connections to the symbolic.

Depending on which profession is being discussed these groups of behaviors are called variously "intelligences," "modules," "domain-specific," and "functions." There are wide differences in the theoretical bases on which each approach is founded, but this in no way negates the fact that despite these differences the results or behaviors that each find relevant are so similar. This in fact makes their findings even stronger. Despite the differing criteria through which each field's research is/was filtered, all of the behaviors essentially fall within these four categories, discussed in the following sections.

### **Connections to Other Humans**

Steven Mithen (1996) is a cognitive archaeologist whose theories are set forth in *The Prehistory of the Mind* as discussed in Chapter Two. He posits four broad categories of behaviors in a specific order of development. The first appears because living in a group increases the ability to survive in the harsh environment; it is a social intelligence. Supporting Mithen's hypothesis is the fact that as humans developed their "social environment occupied an increasingly large proportion of their total environment." (Tattersall, 1998, p. 43) Living in roaming bands persisted for millions of years with no change, leading to the selection of abilities that facilitated interactions with other members of the group and thus to the development of a social intelligence.

As discussed in an earlier chapter Mithen bases his construct on his research in cognitive archaeology combined with wide readings in psychology. Current research into the social behaviors

of simians, who live in groups much as our very distant ancestors did, reflects the same kind of well-developed social intelligence. Frans DeWaal (2001), professor at Emory University and prolific author with a world-wide reputation in the field of primate behavior, describes such simian behavior in the following:

Much current research portrays primates, particularly the great apes, as Machiavellians in their own right . . . . They are portrayed as social tacticians who have a canny knowledge of each of their companions and the networks of social relations that hold between them. They are flexible and often fickle in the cooperative alliances they make, and thus manage to outmaneuver others in the pursuit of resources. And they have a wide repertoire of tricks for social manipulation, ranging from deceit to reciprocal altruism. (p. 9)

If research with simians provides clues to past human behavior, as is generally conceded, then humans did have a highly-developed social intelligence very early in our evolutionary history as Mithen concludes. Evolutionary psychologists also find evidence of this type of behavior in their research.

The evolutionary psychology model posits a specialized mentality made up of multiple, content-rich, domain-specific mental modules, likened to the blades of a Swiss army knife. (Mithen, 1996) These are our genetic inheritances from the past. Gazzaniga (1998), author and Director of the Program in Cognitive Neuroscience at Dartmouth College, confirms this: “Even the devices in us that help establish our understanding of social relations may have grown out of perceptual laws delivered to our infant brain.” (p. 2.)

William A. Spriggs (1995 & 2003), host of the Evolution’s Voyage web site, lists many behaviors that originate in hunter-gatherer times and that still influence our behavior today. However, his simple listing can be broken down into the four categories listed on page two of this chapter. The behaviors that connect us to other humans and that relate to social transactions of one kind or another include the following: Social group reasoning, coalition formation, deception, detecting emotions, face recognition, incest avoidance, kin recognition, mate preferences, parenting, perception of status/ranking, romantic love, sexual attraction, and social avoidance. All of these involve human interactions, whether manifested by an individual within a group or to another individual.

Developmental psychologists, concerned with life from birth onwards, also find that human infants are born with an innate intuitive psychology that immediately orients them to other humans.

Annette Karmiloff-Smith is one of today's leading researchers into the workings of a child's mind. In her 1992 ground-breaking book, *Beyond Modularity : A Developmental Perspective on Cognitive Science*, she writes that children are "spontaneous psychologists." (p. 117) Even a very small child has the ability to interpret the mental states of those around them. Because there is a substantial amount of domain-specific knowledge about the world in every baby born, later learning is enabled and an "enrichment" of inherited principles takes place. (Karmiloff-Smith, 1992) Most importantly infants pay very close attention to humans and human actions, over and above the attention paid to inanimate objects that are moved. This is true for our entire species, according to Edward Wilson (1984), Pulitzer prize-winning author, who writes: "Life of any kind is infinitely more interesting than almost any conceivable variety of inanimate matter." (p. 84) Wilson discusses the emotional attachment of humans to other living organisms as "biophilia." This is defined in his ground-breaking book as "the innate tendency [of humans] to focus on life and lifelike processes." (p. 1)

A child's innate psychology thus provides a background of knowledge that is added to as a child continues to develop and learn. By the time they are an adult this intuitive psychology, spontaneously exhibited from birth, has transformed into the adult's Feeling function in the Jungian psychic construct. Feeling is oriented toward people, and individuals with this function dominant are concerned with how things affect themselves personally as well as others. In other words they are concerned with getting along with others and with fulfilling themselves. Their decisions are based on personal values that are used to judge ideas and situations within which they find themselves. Human interactions, whether with themselves or with others, are the focus of this function.

In summary, Mithen sees group living as the generator of social intelligence because these types of abilities, such as being able to interpret motives behind behavior, enables survival within a group. Evolutionary psychologists also isolate many behaviors that relate to successful functioning while living and relating within a group. In young children the same social laws found by evolutionary psychologists are manifested in an intuitive psychology shown to be present from birth onwards. In the human adult the Feeling function allows the same type of interpretation of human behavior. All of these, regardless of the field being discussed, are people-oriented and connect us psychologically to others of our species.

## Connections to the Concrete

The second category involves behaviors related to a knowledge of the concrete, of the physical environment in which we live. Mithen's (1996) natural history intelligence develops in our hunter-gatherer ancestors as a result of their paying attention to such things as the habits of animals and the locations of watering holes and shelters. Knowledge of this concrete world in which they exist ultimately decides whether or not they survive. Tattersall (1998) describes this kind of knowledge, still exhibited by the San Bushmen in present-day Australia :

[T]he San Bushmen . . . can tell from a bent twig or a stone overturned in a streambed what animal had passed, in which direction, how long ago, how fast it was traveling, and whether it was wounded. It is a true uniqueness of human beings to be able to read subtle signs of this sort in the world outside themselves and to exploit those signs to their advantage. (pp. 196-197)

This ability to interpret the smallest environmental clues in such a comprehensive way is the genetic inheritance resulting from the complete immersion by our hunter-gatherer forbearers in a living ecosystem. Wilson (1993) points out that for more than 99 percent of human history, we lived in bands that are indivisible from the environment. (p. 32) Biophilia, our emotional attachment to other living things, is the genetic heritage from this time. During this crucial period of our evolution we were part of an environment composed of *all* living things: Humans, other animals, and plants. There are no differences; we are not set apart by superior abilities. The essence of Wilson's biophilia is that our minds are still part of a planetary ecosystem and that we are suffering because the complexities of a modern mostly urban lifestyle prevent us from existing in a way that satisfies our emotional need to be close to living nature. Although Wilson does not specifically call biophilia an adaptation, it might perhaps be seen as the, dare I say it, "mother of all adaptations," under which all others that involve connections to our environment may be subsumed.

Many of the adaptations found by evolutionary psychologists qualify for such a listing. These include: Landscape preferences, mental maps, food aversions, odor avoidance, color perception, and plant spoilage awareness. (Spriggs, 1995 & 2003)

As a professor of landscape architecture I am particularly interested in the origin of landscape preferences as discussed by Steven Pinker (2002), professor of psychology at MIT and noted author and researcher:

Some of the motifs [that give people pleasure] may belong to a search image for the optimal human habitat, a savanna: open grassland dotted with trees and bodies of water and inhabited by animals and flowering and fruiting plants. . . . Other patterns in a landscape may be pleasing because they are signals of safety, such as protected but panoramic views. Still others may be compelling because they are geographic features that make a terrain easy to explore and remember such as landmarks, boundaries, and paths. (p. 405)

Setting aside the preferences for specific locations gardens certainly conform to the other preferences in many respects. They began as representations of the wild enclosed within boundaries for safety and feelings of security with paths, bodies of water, flowers, and fruiting trees. The specific garden form changes from culture to culture, but the *idea* of garden remains the same throughout history. (Hunt, 1995)

Perhaps gardens, as oases of tamed wilderness, are a reflection of an inherent biophilia as theorized by Wilson (1984). Regardless, he takes the idea of landscape preferences a step further, calling them the “savanna gestalt” and writes that people in crowded urban situations go to “considerable lengths to recreate an intermediate terrain” and that they attempt to create these types of landscapes in “such improbable sites as formal gardens, cemeteries, and suburban shopping malls, hungering for open spaces but not a barren landscape, some amount of order in the surrounding vegetation . . . .” (p. 109-110, 111)

Preferences for tamed wildernesses is also exhibited by young children, who prefer calendar landscapes to pictures of both deserts and forests. (Pinker, 2002, p. 412) “Calendar landscapes” refer to those that generally look much like the English School of landscape architecture. This preference is attributed to the fact that our species spent most of two million years roaming the savannas of Africa, the continent on which we originated. These savannas are “vast, parklike grasslands dotted by groves and scattered trees.” (Wilson, 1984)

Knowledge of the animate and inanimate world around them, including landscape preferences mentioned above, is inborn in every human infant. Developmental psychologists have shown that from birth infants “process information about the human environment and information about the physical environment in different ways.” (Karmiloff-Smith, 1992, p. 120) Young children know that living things are unique and can even tell that a horse in striped pajamas is still a horse and not a zebra. (Mithen, 1996, p. 52) Such inborn knowledge lays the foundation for a child’s continued

learning about animals other than humans and objects in his/her physical environment whether living or otherwise.

As a child matures into an adult this inborn knowledge of and preferences for certain aspects of the environment transform into Jung's Sensation function. This function informs us about our physical surroundings with a constant flow of information received through the five senses. As expected of abilities that in our distant ancestors enabled survival in a primitive world, today these same abilities keep a sensation-dominant individual constantly in touch with his/her immediate surroundings. Jung (1971) writes about the extroverted sensation individual as follows:

No other human type can equal the extraverted sensation type in realism. His sense for objective facts is extraordinarily developed. His life is an accumulation of actual experiences of concrete objects, and the more pronounced his type, the less use does he make of his experience. (p. 363)

In other words, the gestalt "experience" of a situation is subordinate to the signals and information constantly being received through his/her touch, taste, feel, sight, and hearing. For the Sensate type all of these concrete sensations received from the surrounding environment overwhelm other types of information, for the introverted sensate as well as for the extroverted sensate. The difference between the two is that the introvert filters the sensations through a subjective, personal reality that may be quite different from objective reality. (Jung, 1971, p. 394)

To summarize, a hunter-gatherer must know his environment in order to survive. This leads to the development of a natural history intelligence, as hypothesized by Mithen, and the adaptations found by evolutionary psychologists that I group into this category. This inheritance is evidenced in modern children in how they pay attention to their environment and to living things other than humans. In the human adult the sensation function further testifies to abilities once used to track game and locate other survival necessities. In all of these fields, the behaviors relate to awareness of the concrete physical environment in which we exist.

### **Connections to Universal Principles**

The third category involves knowledge of underlying universal principles that operate in our world. For Mithen (1996) this is brought about initially by the making and using of tools and/or weapons. As various materials are shaped our ancestors learn that stone behaves one way, bone another, wood another. Fire is mastered and behaves still another way. Gradually, an internal

genetically-wired knowledge base is created that makes us understand on an instinctive level how objects in the world behave. This is what Mithen terms “technical” intelligence. According to Tattersall (1998), when our ancestors took this step, they “possessed powers of anticipation that exceed anything seen in the living world outside our own species.” (p. 183) This then, was a crucial step in our evolution.

In writing about this same kind of knowledge from the evolutionary perspective, Gazzaniga (1998) writes this:

Every newborn is armed with circuits that already compute information enabling the baby to function in the physical universe. The baby does not learn trigonometry, but knows it; . . . does not need to learn, but knows, that when one object with mass hits another, it will move the object. (p. 2)

The principles that operate in trigonometry and that tell us what will happen when one mass strikes another are universal. They underlie our ability to perform in the world, to navigate it successfully. Modules in our brain contain an awareness of these principles that give infants a head start on learning how objects in the environment behave.

Experiments in developmental psychology also reveal that: “Well before it is a year old, the infant ‘knows’ a surprising amount about various properties of objects and the principles governing their behavior in the physical world.” (Karmiloff-Smith, 1992, p. 65) Young children have an inborn knowledge of physics that includes an awareness of such things as solidity, gravity, and inertia. (Mithen, 1996) They are also innately aware of the differences between animate and inanimate objects, as mentioned in the previous section. (Karmiloff-Smith, 1992) This hard-wired knowledge gives the young of the human species a head start on learning how the world operates and thereby helps them to survive it.

In Jung’s analytical psychology evidence of connections to universal principles is found in the Thinking function. Those who prefer to make decisions based on thinking use logic and order to structure their judgments with life principles forming the basis of their decisions. Such principles are universal for them and permeate their world, giving it meaning and understanding. Jung (1971), in his seminal book *Psychological Types*, describes the extroverted thinking process this way:

This type of man elevates objective reality, or an objectively oriented intellectual formula, into the ruling principle not only for himself but for his whole environment. .

. . . Because this formula seems to embody the entire meaning of life, it is made into a universal law which must be put into effect everywhere all the time, both individually and collectively. (p. 347, par. 545)

The introverted thinker, instead of dealing with objective reality, internalizes what he encounters into a subjective reality. (Jung, 1971, par. 633) However, regardless of whether the thinking process is introverted or extroverted, objectively or subjectively oriented, the thinking type transforms facts into universal principles that thereafter guide his/her life and work.

In summary, hunter-gatherers acquire knowledge about an object's properties -- how it moves, its responses to manipulation -- during the making and using of tools. Over time this leads to the development of a technical intelligence. Evolutionary psychologists today find evidence of a knowledge of the underlying principles that operate in the world in modules hard-wired into the brain at birth. Developmental psychologists find in young children these same principles manifested in an intuitive physics. In a human adult the conviction and reliance on the existence of universal principles that order the objective/subjective world resides within the Thinking function.

### **Connections to the Symbolic**

The use of symbols begins when we, as a species, begins to use language to communicate. It is this ability among all those that humans possess that make us most uniquely human and “the one in the absence of which it is least possible for us to conceive of humanness as we experience it.” (Tattersall, 1998, p. 58) Language uses words that are symbols, representing an object or event while not being the object/event itself. This use of symbols comes late in our development and is generally conceded to be the last of our abilities to develop, at least to this point in our evolutionary history. (Mithen, 1996; Harth, 1993; Tattersall, 1998)

Mithen, as well as Gazzaniga (1996), attribute the development of our ability to communicate with words to the give-and-take of living in a group. In Mithen's construct language begins within social intelligence and as usage increased it grew more robust until it is a separate intelligence. Mithen sees the early use of language as “contaminating” the unconnected social, natural history, and technical modules. Language thus becomes the medium through which interactions among the four specialized intelligences takes place, producing a “cognitive fluidity” that is a basic characteristic of the modern human brain/mind,

Language is also on the list of inherited behaviors put forth by evolutionary psychologists. All human societies have language, and all human individuals have the ability to learn any language if they start early enough. (After the age of ten this ability diminishes.) (Tattersall, 1998, p. 62) Other behaviors relating to the symbolic include gossip, humor, and self-awareness. (Spriggs, 1995 & 2003) The first three involve representations that are clearly symbolic, regardless of whether words or images are employed as with certain kinds of humor. Self-awareness is classed as symbolic because it is the ability to hold an abstraction or symbol of who we are within our own mind. It is not a concrete entity nor is it related to a universal principle arising out of the way objects behave. When we are aware of ourselves it involves a symbolic sense of who we are as a conscious being, not the realization of the flesh and blood of our physical body.

Research in developmental psychology shows that an intuitive language ability is built-in to every human infant. (Mithen, 1996) “We don’t learn to talk, as most think. We start to talk when our brain is good and ready to say something.” (Gazzaniga, 1998, p. 58.) The way in which children learn language, the kinds of errors they commit, and the overall speed of learning also supports the existence of an innate and generalized language ability. (Tattersall, 1998, p. 62) Certainly, once the process begins children rapidly acquire words that soon lead to the formation of sentences. Mandler (1983, 1988), Research Professor of Cognitive Science at the University of California in San Diego, goes further, arguing that his extensive data shows the existence of symbolic representation in a young infant’s life well before the age of talking. In *Beyond Modularity* Karmiloff-Smith (1992) discusses basic linguistic, mathematical, and notational abilities as innate from birth and sees them as distinct domain-specific abilities. Since all three of these use processes that are represented symbolically they are included together in this section. The important point is that symbolic processes are innate to the infant brain, part of each baby’s human inheritance.

The fact that human babies arrive in the world with innate proclivities, found by both environmental and developmental psychologists, is not surprising when some of the findings of current brain research are considered. According to Harth (1993) there are approximately 100 billion neurons in the human brain. These form an intricate network that is the base for everything that happens in the brain. In discussing these, he states:

All of these neurons are present at birth, as well as many more that are later pruned away during early development. No new neurons will be formed for the rest of our lives. To reach this number by the time we are born, neurons must be generated throughout our nine months of embryonic development at the prodigious rate of close to five thousand per second! (p. 49)

It follows that these neurons must have been imprinted by past experiences during our very long evolutionary history. However, a genetic predisposition is only the beginning, as Harth states in the following:

Taking, then, the brain of a newborn, there are two elements that determine its precise structure: its genetic blueprint, often referred to as nature, and a random component. The latter may not affect such traits as intellectual and emotional predilections, but must affect the detailed neural representations of reality in the future. (p. 117)

In other words, that is why we are individuals, different from every other person on the planet in large and small ways. And, despite a common psychic structure, Jungians find that each person differs from all others. In the process of this differentiation, the symboling capacity of a newborn transforms into an adult's Intuitive function. Jung (1971) defines intuition simply as "a kind of perception which cannot be traced back directly to conscious sensory experience." (p. 538, par. 952)

Present-day research into cognition and how the mind works also finds that intuition exists as an "intermediate level of neurobehavioral function . . . which acts in the absence of conscious reasoning . . ." (Tattersall, 1998, p. 211) Although Jung's Intuitive function is more complex and comprehensive than the intuition referred to by Tattersall, both definitions relate to a process that lies below the level of consciousness. Dominant intuitives, then, are most often aware of the unconscious realities of a place, time, or situation and of concepts and the "big picture" rather than specific details in the present. In Jung's psyche, dominant intuitives often perceive the objects of the world around them through a filter of symbolic meanings. All of these require abstractions of reality - symbols - in order to operate.

To summarize our discussion so far, our early ancestors needed to communicate in order to survive, which gradually differentiates an area of social intelligence into language intelligence. Language gradually connects formerly separated intelligences to produce a cognitive fluidity. Evolutionary psychologists isolate several innate behaviors that I relate to the symbolic that include language, gossip, humor, and self-awareness. Developmental psychologists deduce an inborn

intuitive language in infants as well as inborn mathematical and notational abilities, all of which use symbolic processes. Words, numbers, and pictures are abstract symbols for actual objects, behaviors, and so forth. In a modern human adult symbolic orientation is centered in the Intuitive function.

Language and the ability to use symbols therefore initiated tremendous changes in the life of early humans. One of the most important of these is that the use of symbols opened the mind to the creation of art, replete with symbolic meanings that go beyond sensory experience alone. The crux of Mithen's construct in fact is that the use of language, a symbolic medium, and the integration of formerly separate domains; the social, natural history, and technical intelligences; ultimately causes art and religion, rooted in symbolism and partaking of multiple domains, to come into existence. Without language; which made interaction and cross-communication of information, cognitive fluidity, among all of the intelligences possible; art could not have happened -- and didn't for millions of years, occurring very late in our evolutionary development. This interaction among intelligences can be demonstrated by examining an imagined ancient object of art, such as a small stone figure of a female. Look first at its shape in your mind's eye. Without knowledge of universal principles operating in the world, gleaned from toolmaking (technical intelligence), that shaping could not have occurred. Next, look at the material itself and think about how it was located. Its selection relies on information from the physical world around the ancient artist, garnered through countless encounters with the elements of that world (natural history intelligence). Because the sculpture represents a female figure it requires knowledge of the human body, a result of living and interacting within a group (social intelligence). Using the same reasoning, look at very early religions. They were nature-based with trees and animals taking on human characteristics and thereby requiring a melding of social and natural history intelligence. If a representation of the deity were created, then technical intelligence came into play. (Mithen, 1996, pp. 151-184) Such representations become a principal source of metaphor and myth. (Wilson, 1993, p. 32)

Erich Harth in his 1993 book, *The Creative Loop: How the Brain Makes a Mind*, says that when we developed language, we left our evolutionary niche and "embarked on a course on which imagination and creativity became more valuable than swiftness and strength." (p. xix) Language and the use of symbols are the generators of imaginative creativity.

The ability to use symbols and to creatively combine various types of information into a work of art is universal in our species, as discussed in *The Blank Slate* by Steven Pinker (2002).

Art is in our nature -- in the blood and in the bone as people used to say; in the brain and in the genes, as we might say today. In all societies people dance, sing, decorate surfaces, and tell and act out stories. Children begin to take part in these activities in their twos and threes, and the arts may even be reflected in the organization of the adult brain. (p. 404)

At their best, gardens, the subject of this study, are just such an expression of creativity and imagination. They reflect the unique human ability to “create a world in the mind and to re-create it in the real world outside themselves.” (Tattersall, 1998, p. 177) If the tenets of biophilia are valid they also reflect a basic human need to connect with nature that is formed during the eons of our evolutionary history. (Kellert, 1993, p. 20-21)

Art, the ultimate symbolic medium, is bred into our species whether expressed in a garden design, sculpture, writing, or other creative activity. Pinker summarizes the universality of our need to create in the following:

Regardless of what lies behind our instincts for art, those instincts bestow it with a transcendence of time, place, and culture. . . . Though people can argue about whether the glass is half full or half empty, a universal human aesthetic really can be discerned beneath the variation cross cultures. (p. 408)

In Jungian terms underneath the variation across cultures may also be found distinctive patterns that arise out of the collective inheritance of our species.

### **Intimations of the Collective**

Jung (1959 & 1969) discusses collective archetypes as instincts derived from the farthest reaches of our evolutionary development, as inherited patterns imprinted on the psyche through millions of years of use. These patterns become activated when something in the thoughts or environment of an individual connect to an archetype with a similar meaning. This archetype comes to reflect the culture and experiences of the person who activates it in the details that “flesh out” its abstracted pattern. Jung strongly asserts that archetypal patterns ensure that humans behave as humans. Their activation provides a behavioral structure that we fill in with the cultural norms of our time and place in history. The underlying reason for the activation of a behavioral pattern remains untouched and the same regardless of when it is manifested.

Collective archetypes are often experienced as mysterious and powerful creatures that appear suddenly in our dreams or imagination. One such archetype that is particularly powerful is the serpent. According to Jung:

The lower vertebrates have from earliest times been favorite symbols of the collective psychic substratum, which is localized anatomically in the subcortical centres, the cerebellum and the spinal cord. These organs constitute the snake. Snake-dreams usually occur, therefore, when the conscious mind is deviating from its instinctual basis. (p. 166, par. 282)

As with many symbols, however, the serpent carries different meanings depending on what is happening in the life of the person who activates it. An example of this is the image of a serpent coiled around a staff, the universal symbol of the medical profession that is the most common symbol of transcendence, the rising above of ordinary life into a higher plane of consciousness. (Henderson, 1964, p. 154)

Regardless of its specific meaning, Wilson (1984) wrote about just such a collective archetypal serpent in *Biophilia*:

Perhaps the most bizarre of the biophilic traits is awe and veneration of the serpent. The dreams from which the dominant images arise are known to exist in all those societies where systematic studies have been conducted on mental life . . . . The images described by urban New Yorkers are as detailed and emotional as those of Australian aboriginals and Zulus. In all cultures the serpents are prone to be mystically transfigured. (p. 85)

Jung, of course, found many such archetypal images in his years of research into the dreams of his patients and in studying the dreams of those in cultures throughout the known world. As Wilson says they are common to all humans in all cultures. Since this is a given for any collective symbol Jung would certainly agree with this. He would probably also agree with Wilson's description of how he imagines symbols like the serpent became part of our genetic structure, as follows:

Here, then, is the sequence by which the agents of nature appear to have been translated into the symbols of culture. For hundreds of thousands of years, time enough for the appropriate genetic changes to occur in the brain, poisonous snakes have been a significant source of injury and death to human beings. The response to the threat is not simply to avoid it . . . . People also display the mixture of apprehension and morbid fascination characterizing the nonhuman primates. They inherit a strong tendency to acquire the aversion during early childhood and to add to it progressively, like our closest phylogenetic relatives, the chimpanzees. The mind then adds a great deal more that is distinctively human. It feeds upon the emotions to enrich culture. The tendency of the serpent to appear suddenly in dreams, its sinuous

form, and its power and mystery, are the natural ingredients of myth and religion. (p. 97)

It is interesting that the writings of a trained modern scientist and entomologist so closely follow Jung's thinking concerning archetypal images and their symbolic power and the universality of their appearance.

Although an evolutionary psychologist does not speak of collective archetypes, the process by which the behavioral adaptations made by our ancestors are sourced today sounds remarkably like the Jungian synopsis in the first paragraph of this section. They talk about "evolved cognitive structures" and "psychological mechanism devices," among others, that are activated by the circumstances in which an individual finds him/herself. These inherited mechanisms "have evolved from our ancestral pasts to adapt to all situations that we now face as humans." (Spriggs, 1995, 2003, p. 5) Collective archetypes are also inherited, are activated by circumstances, and make up the most basic structure of the human mind. As Jung found in his day and as evolutionary psychologists find today these inherited patterns, whether termed "cognitive structures" or "collective archetypes," are what make us human and make sure that we behave as humans always behave.

Mithen (1996) in *The Prehistory of the Mind* is mainly concerned with psychology as it informs his archaeological findings. However, his reconstruction of the mind's evolution culminates with the beginnings of art and religion, which frequently grow out of archetypal motifs. This suggests to me that he would not be negatively inclined toward such an interpretation nor surprised.

As for developmental psychology it is not directly concerned with collective motifs or ideas but frequently discusses "innate" knowledge in place within the infant brain at birth. It also is predicated on knowledge that is activated as circumstances and/or maturation dictate. It is a small step to progress from built-in universal knowledge that is common to all infants and that is activated as needed, to collective archetypes common to all humans that are universal and that are activated when similar circumstances occur.

The collective is expressed by patterns that carry meanings beyond the shapes or behaviors they generate when activated. These hidden meanings are not consciously recalled as the following explains.

Sometimes what we learn from a representation, the meanings we glean, were not intended by its maker. In fact, many messages in representations are below levels of consciousness, or offer dominant cultural norms without a conscious intent. (Schneekloth & Franck, 1994, p. 30)

Such representations, generated by the collective into the present, are both collective and individualistic. It is important to understand that these two opposites are not mutually exclusive concepts. As Sharp (1991) states, “The individual standpoint is not antagonistic to collective norms, only differently oriented.” (pp. 41-42) Each individual is unique and unlike anyone else. S/he becomes unique by growing up in a particular society in a particular place and at a particular point in history. Such factors combine to make each culture its own. An individual immersed in a culture produces thoughts -- details -- that are unique, even when sparked by a collective pattern, an archetype. This cultural alliteration is referred to as the source of unpredictability by Harth (1993) and explained as follows:

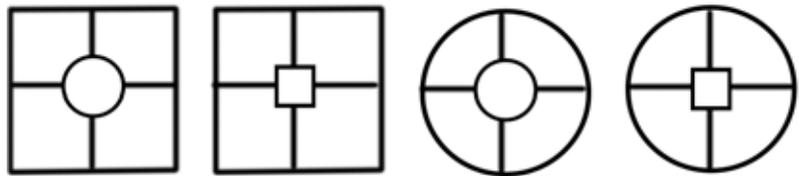
The real difference [between a machine and the brain] is that in the brain the source of unpredictability is not *random* noise, but a noise that contains fragments collected over a lifetime, like a sediment rich in fossils, both large and small. The wealth and complexity of this treasure are beyond description. It is doubtful that they could ever be reproduced in all detail. **The creative loops in our brain are tuned to these voices and whispers of the past, from which they compose the images and thoughts of the present.** (p. 171) (Harth’s emphasis)

In the following chapter, this creative fusion of collective and personal is explored further as the seven selected garden designs are analyzed.

## CHAPTER 4 THE ANALYSIS

In this chapter, selected gardens are analyzed in order to discover whether or not they contain the basic elements of a mandala, a collective archetype. A collective archetype is, by Jung's (1959) definition, an inherited pattern that, through time and use, has been engraved into the psychic structure of every human being. The mandala is the oldest of the many archetypal patterns that Jung found that guide our behavior and that make us quintessentially human. When it is expressed as a visual image, its basic form consists of combinations of a circle and a square. (A rectangle sometimes replaces the square.) The circle signifies our connection to the abstracted psychic world in which we live, our culture; the square exemplifies our connection to the concrete, physical world of our environment, nature. (Jaffe, 1964)

When they are combined into one mandala figure, they represent our attitude toward wholeness; the oneness of reality and spirit, nature and culture, the



**Figure 4-1.** Four mandala combinations. (Drawings by author.)

physical and the abstract. (Jung, 1959; Jaffe, 1964) See Figure 4-1 for the four combinations of circle and square that may compose this collective archetype in its most abstracted visualization. The mandala's traditional division into four quarters will be discussed as the analysis proceeds, as will be the modifications to the basic pattern that occur as it is expressed in various containing cultures.

The gardens that are analyzed in this study are:

- a Paradise garden: the Court of the Lions at the Alhambra,
- a walled cloister garden of the Middle Ages: the cloister at Arles,
- an Italian Renaissance garden: Villa Lante,
- a French Baroque garden: Vaux le Vicomte,
- an English landscape garden: Stourhead,
- an American Modernist garden: Goldstone garden by Garrett Eckbo, and
- a garden of a currently practicing landscape architect in the United States: Dickenson residence by Martha Schwartz.

The questions that will be addressed through the analysis are:

- **Is there a mandala pattern(s) contained within each garden's plan?** What circles, squares/rectangles, and quartered crossing lines are revealed by diagramming each element separately? When combined into a synthesis figure, what pattern(s) do they form? How does the expressed pattern that is extracted from the above synthesis differ from a collective and abstracted, archetypal mandala pattern?
- **What does a Jungian interpretation of the extracted mandala components underlying each garden's plan reveal psychologically?** What is implied concerning the psychological relationship with the cultural or spiritual side of human existence? What is implied about the psychological relationship with nature or the concrete half of human existence?

In order to answer these questions, each garden's plan is outlined in AutoCAD, its individual elements color-coded, and then re-combined into a synthesis figure before extracting the contained mandala(s) or its components. Finally, the revealed pattern(s) is interpreted psychologically through the application of Jung's principles..

### **The Beginning: An Islamic Paradise Garden**

As discussed in Chapter One, the Paradise garden is considered to be the very first garden type that we, as humans, created. The garden's form originated when the pattern of irrigation canals surrounding towns were brought inside the walled enclosures of their homes to create private oases for the inhabitants. (Jellicoe & Jellicoe, 1995) However, this was not the Western idea of irrigation, with muddy ditches carrying water between marching rows of plants. As early as the sixth century B. C., the Persians carefully constructed underground channels, or *qanats*, to bring water to villages and fields from the mountainous foothills and through miles of desert. When they reached their destination, these became open channels laid out in a gridded pattern. Brookes (1987) describes it:

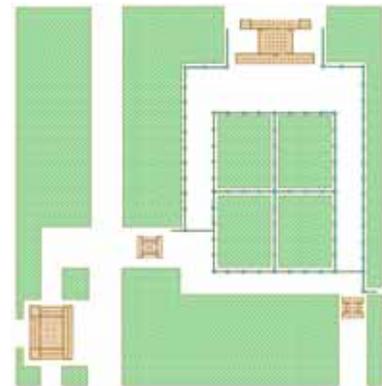
It is from the stylization of these grid patterns, between which crops or fruit trees and eventually flowers were planted, that the typical early garden layout developed. The catchment pool became a feature in the layout and was treated in ever more decorative ways. The grid network, under Islam, was characteristically reorganized into extended geometric patterns, suggesting boundlessness and infinite divisibility, while planting within the compartments complemented and balanced the whole conception which was viewed as a recapitulation of paradise. (p. 30)

### **The Container of the Paradise Garden**

As a stylization of the compartmented countryside, gardens became walled sanctuaries, private retreats that shielded their owners from drying wind and scorching sun. The oldest garden for which there is a schematic reconstruction is that built by Cyrus the Great around 546 B. C. at

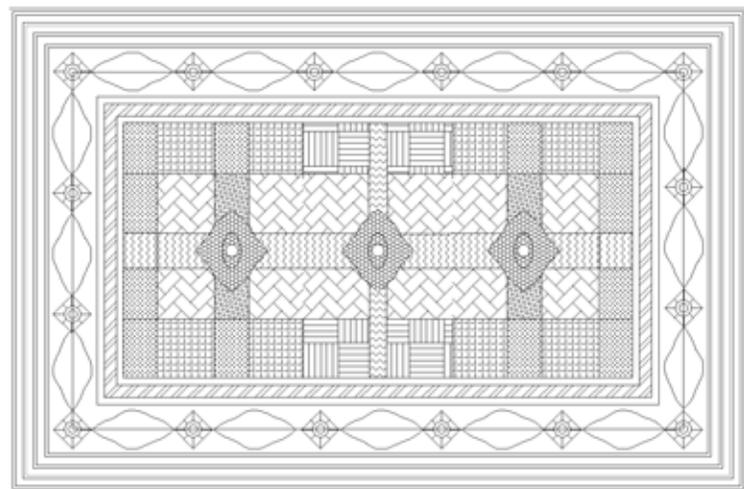
Pasargadae, the capital of the Persian Empire. The geometrically planned garden is defined by a decorative carved stone watercourse with straight rows of trees and shrubs planted in symmetrical plots, Figure 4-2. (Moynihan, 1979, p. 2) After Islam conquered the Persian Empire in the seventh century A.D., the Persian garden became a valued part of Islamic culture. (Brooks, 1987, p. 28) In fact, one of the reasons the Islamic culture spread so far and wide and lasted so long is because of their assimilation of elements found within conquered societies into their own. Above all, however, this garden seemed to be the manifestation on earth of the Prophet Mohammed’s words in the Quran. In fact, there are 164 verses, scattered through four chapters, that describe the elements of the Islamic heavenly garden. (Hamed, 1994) They are water, trees, and shrubs.

Although water, trees, and shrubs, enclosed within a protecting wall, are the essential ingredients in a Paradise garden, it is water that is dominant. Water, the giver of life in any arid region, must be the life force of a garden of the Gods that is an idealization of a desert landscape. An earthly garden of paradise; that reflects both the heavenly garden and an actual, landscape; must also have water as its primary component. Water is symbolically important in several ways.



**Figure 4-2.** Royal Garden at Pasargadae plan. (Drawing by author)

The Mountain of Paradise, re-presented in the form of the Babylonian ziggurat, is often shown on top of the crossing of four rivers that “nourish life and divide the earth.” (Moynihan, 1979, p. 9) These rivers of life, an ancient symbol from the myths of the Great Mother, are also specified in the Quran as one each of water, milk, wine, and purified honey. (Moynihan, 1979, p. 9) In the Paradise garden, the four water channels



**Figure 4-3.** A paradise carpet. (Drawing by author.)

that divide the garden into quarters are symbolic of these. The form of this garden, the *chakar bagh* or four gardens as named by the Persians, is also seen in the design of their carpets. (Brookes, 1987, pp. 17-19) A diagrammatic representation of one a paradise carpets is shown in Figure 4-3. This gives the Paradise garden its prototypical format that is still prevalent today and is the type of Paradise garden that is the subject of this study.

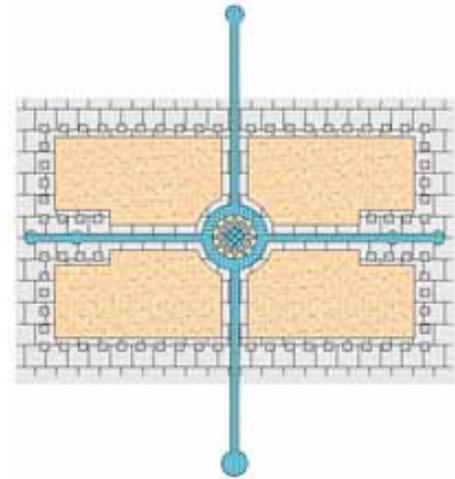
At the intersection of the watercourses is a raised Persian pool, a fountain, that is the garden's spiritual center, exemplifying the vertical orientation of the garden's focus. It is raised up, toward the heavens, in order to reflect the abode of the Gods. In the garden, pools are:

. . . always brimming with water, for Persian pools are raised above ground level . . . .  
The pool as such reflects heaven in its shimmering surface, thus uniting the exalted with the mundane. (Brookes, 1987, p. 30)

The exalted is the heavenly or vertical realm; the mundane is the physical or horizontal realm. The circular central pool thus embodies the spiritual created world of the mind, while the garden within which it is placed embodies the concrete world of reality. This is reinforced by rectilinear planting beds that contain fruiting trees and shrubs, such as the date palm and pomegranate, that nourish the physical body. Cypress trees, sacred to Persians and a symbol of immortality, were often used to border the watercourses that divide the garden into plots. (Moynihan, 1979, p. 7) As growing, living things they represent the physical world; in their unchanging greenness the spiritual world, thus mediating between the two, as does the fountain in the garden's center.

Garden walls are meaningful as the element that divides and protects the garden and its inhabitants from the profane world outside its borders. The walls create an introverted and defined space, "encompassing within itself a total reflection of the cosmos and, hence, paradise." (Brookes, 1987, p. 23) The cosmos is not just paradise, however. The cosmos is all that exists. The Paradise garden is, therefore, an homage to wholeness, to the oneness of spiritual and physical, concrete and abstract, culture and nature. The mandala, as a collective archetype imaging wholeness within its pattern, is the natural form for a garden of this type and is called into consciousness when ideas of oneness with the cosmos are expressed. This kind of response is an automatic psychological mechanism that occurs when an event or thought expresses the same type of action or feeling that created the collective pattern. (Jung, 1959, new material 1969)

As Islam spread into parts of Europe, notably Spain, the idea of this garden with them virtually intact. The most notable example of this influence remaining today is the Alhambra in Granada, begun around 1250. Jellicoe & Jellicoe (1995) call this the “supreme example of Moorish imagination and elegance in the design of enclosed landscape.” (p. 44) They describe the Court of the Lions, to be analyzed here, as the climax of the entire design; with orange trees, alabaster columns, decorative surfaces of carved plaster, and a central fountain of bronze lions, upon whose backs rests a water-filled basin. (p. 44) As seen in Figure 4-4, the Court of the Lions is a quintessential example of a paradise garden, with water flowing from the fountain into canals that divide the space into four quarters.



**Figure 4-4.** The Court of the Lions, a paradise garden. (Drawing by author.)

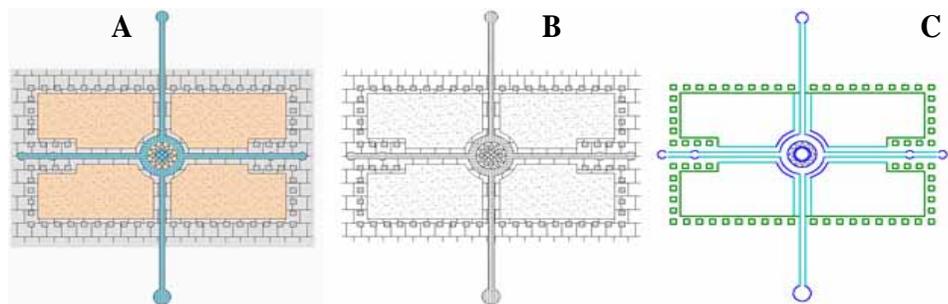
In the visual analysis of the Court of the Lions’ design, elements are color-coded as follows:

- Blue: Circular elements;
- Green: Square/Rectangular elements;
- Cyan: Quartering lines.

This system is followed with each garden’s analysis.

### Court of the Lions Inventory

The plan, colored and hatched, of the Court of the Lions is shown in Figure 4-5, A. In Figure 4-5, B, a black-and-white plan outline is shown, and in

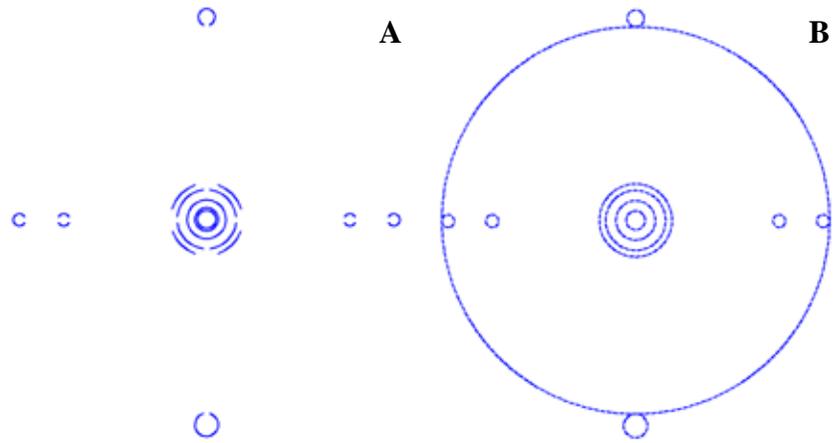


**Figure 4-5.** Court of the Lions plan. A) Hatched and filled plan. B) Hatched only plan. C) Coded plan. (Drawings by author.)

4-5, C, partial and complete circles, squares, and quartering lines are coded according to the system above.

In Figure 4-6, A, existing circular elements are isolated from the overall design. They are exactly as they are in the original plan.

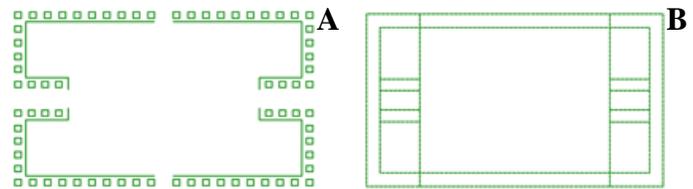
In Figure 4-6, B, incomplete circles are joined, and the four cardinal points, which imply quadrant points on a circle, are connected. There is another



**Figure 4-6.** Circles in the Court of the Lion. **A)** Existing complete and partial circles. **B)** Partial and implied circles are drawn. (Drawings by author.)

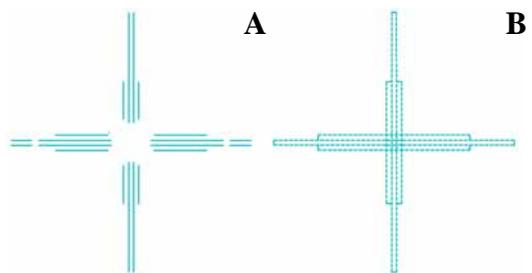
reason for assuming that a circle connects the four quadrant points rather than a square. A mandala is most often composed of alternating circles and squares. In the case of the Court of the Lions, the pattern has been set with center circles surrounded by squares. The next element, then, should be another circle. The geometry that is the basis for the design is beginning to take shape.

In Figure 4-7, A, existing rectilinear elements are isolated from the overall design. In 4-7, B, incomplete rectangles/squares are completed, and implied ones drawn.



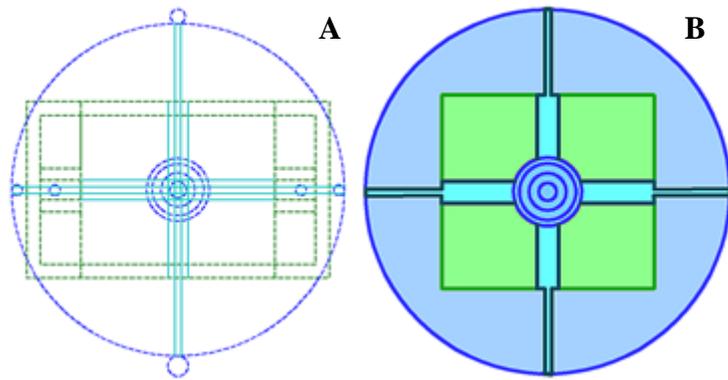
**Figure 4-7.** Squares in the Court of the Lions. **A)** Existing squares/rectilinear elements. **B)** Implied squares completed. (Drawings by author.)

In 4-8, A, the existing water channels that divide the garden into four quarters are outlined exactly as they appear in the original plan. In 4-8, B, unfinished quartering lines are completed to show their crossing at the center of the design and to reveal their overall pattern. An interesting aspect to this pattern is that channels change width as they approach the center, discussed further in the analysis section.



**Figure 4-8.** Quartering lines in the Court of the Lions' plan. **A)** Existing lines that divide the plan into quarters. **B)** Completed pattern of quartering lines. (Drawing by author.)

In Figure 4-9, A, all of the underlying geometries; from Figures 4-6, B; 4-7, B; and 4-8, B; are combined into one synthesis. When these combined geometries are further refined; Figure 4-9, B; a classic mandala pattern is clearly revealed.



**Figure 4-9.** Synthesis of elements. **A)** Overlay of isolated elements. **B)** Color-filled synthesis, refined, and the extracted mandala. (Drawings by author)

### **Analysis of the Court of the Lions**

The extracted mandala derived from a synthesis of elements from the Court of the Lions plan reveals its underlying geometries. This mandala configuration has psychological implications that are discussed next.

### **Psychological implications**

The pattern contained within the design of the Court of the Lions, then, is that of a mandala, embodying the Islamic attitude toward the cosmos, as discussed earlier in this section, and the symbolic meanings of the elements in this garden are in accord with the meaning of the components in an archetypal mandala. The pool is circular and reflects the vertical spiritual focus of the garden. A mandala's circle also reflects our spiritual orientation and is a symbol for the created world of the psyche. The planting beds within the quartered sections express the physical both in their shape and in their contents. They are rectilinear in form and originally contained trees and shrubs at least eighty centimeters below the present level. (Brookes, 1987, p. 58) The square/rectangular shape of a mandala also symbolizes the concrete reality of the existing world, of earthbound matter or a horizontal orientation. A Paradise garden, as with a mandala, is divided into four quarters that are symbolic of the four rivers of life, with its meaning derived both from the Quran and from the myths of the Great Mother. Psychologically, the four-fold motif is a universal religious symbol. (Jung, 1964, p. 21) One example of this is the equal-armed Greek Orthodox cross. A four-fold motif is also a symbol of psychological wholeness, which further reinforces the overall symbolism of the mandala. (von Franz, 1964, p. 199) A Paradise garden may therefore be seen as an expression of oneness with the universe, reflecting within its design the collective, archetypal pattern of a mandala.

During the Middle Ages, the quartered garden migrated from areas conquered by Islam into Europe proper. One possible route for this is through cloisters in northeast Spain, which can be directly traced “to the Muslims, and thence to the Persian paradise garden . . .” (Jellicoe & Jellicoe, 1995, p. 139)

### **The Middle Ages: A Cloister Garden**

The Muslim Paradise garden transformed into the Christianized garden of the European Middle Ages with its form relatively intact. Psychologically, of course, and in Jungian terms, the generating ideas behind both gardens are essentially the same, or the transformation would not have occurred. Rogers (2001) says this on the subject

Although the word “paradise” is often used loosely to denote any garden that is in essence idyllic, the garden symbolizing paradise as it is described in the Quran and the Bible is almost always nature (including human nature) tamed, domesticated, and regulated. (p. 97)

### **The Culture of the Middle Ages**

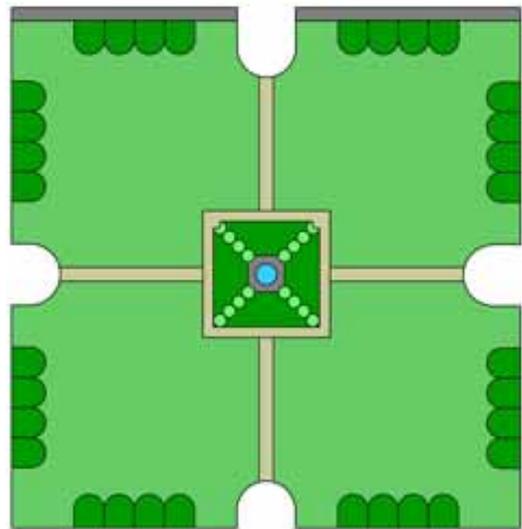
The Middle Ages, also known as the Dark Ages, was a time when wild nature was feared. The world “outside” was dangerous, chaotic. An unconscious desire of every person during this time must have been to have control over the untamed wildness outside the castle walls and monasteries. The mandala image; as a symbolic container of the two halves of the human world, spirituality and physicality; unites them, “tames” them, creating a garden that is, psychologically, a safe haven. The Muslim garden of paradise was, as discussed earlier, also a refuge from a hostile outer world.

Although the Bible is not as visually specific about the contents of the Garden of Eden as is the Quran of their Garden of Paradise, Genesis 2 speaks of a river that “flowed out of Eden to water the garden, and there it divided and became four rivers.” (May & Metzger, 1962, verse 10) This immediately connects the Christian garden back through time to the Four Rivers of the Great Mother and forward to the rivers of milk, water, purified honey, and wine of the Quran. Thus the quintessential four-quartered pattern of the mandala is called forth from the collective unconscious because it symbolically represents the concept manifested by this pattern. Both the enclosed castle garden and the cloister gardens of monasteries may be traced back to the Muslim paradise garden and were also representative of the Christian garden of paradise.

A paradise garden, whether Muslim or Christian, castle or cloister, is enclosed by walls. In fact, the Christian paradise garden of medieval times is known as the *hortus conclusus* or enclosed garden. (Rogers, 2001, p. 101) Penelope Hobhouse, a well-known English writer on all things related to gardens and gardening, says the following about the derivation and symbolism of castle gardens:

For the Christians the enclosed Persian garden of the desert representing the innermost joys of paradise became, in New Testament terms, a symbol of Christ and the Holy Church, bearing ‘fruits of the spirit’. The enclosed garden, seemingly a place of luxury and ease and containing beds and pathways in disciplined shapes, became translated by the new Christian symbolism. (pp. 78)

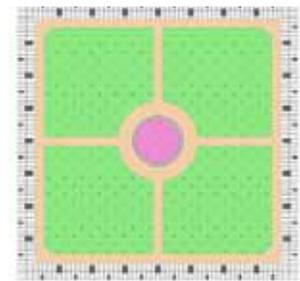
As the Middle Ages progressed, small enclosed castle gardens came to be known as “Mary gardens,” after the Virgin Mary; and roses, once “sacred to Venus, become Mary’s special flowers and . . . white Madonna lilies became symbols of the Annunciation . . . . (Hobhouse, 1997, pp. 78-79) Such small gardens, secure within castle walls, let ladies congregate in safety. Castles and monasteries both contained complete communities within their walls with a garden as a central component, shown in this ideal plan for a monastery garden; drawn at St.



**Figure 4-10.** Ideal plan of a monastery garden; St. Gall, Switzerland; about 830. (Drawing by author.)

Gall, Switzerland; about 830, Figure 4-10. (Jellicoe & Jellicoe, 1995, p. 142) The quadripartite form of the Muslim paradise garden is obvious.

Cloister gardens, particularly early ones, probably contained little more than grass with natural wild flowers and perhaps a tree, well, or fountain in the center. (Hobhouse, 1997) In the Cloister at Arles, the simplicity of its material implementation reveals the underlying mandala image quite plainly, Figure 4-11. The elements in the garden are inventoried in the following section.

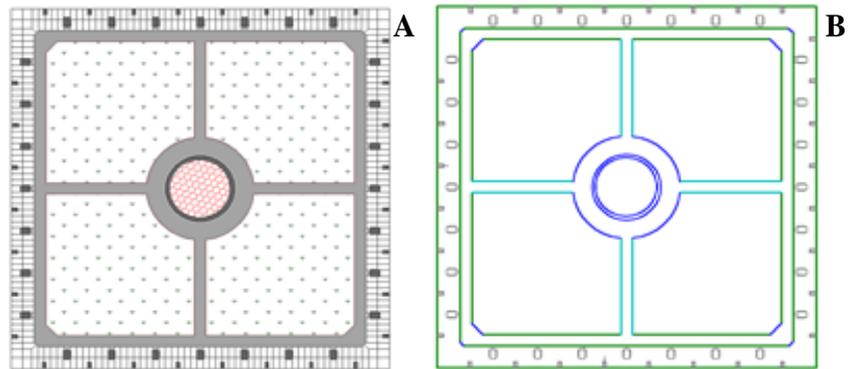


**Figure 4-11.** Arles plan. (Drawing by author)

## Cloister at Arles Inventory

A hatched plan of the Cloister at Arles is shown in Figure 4-12, A.

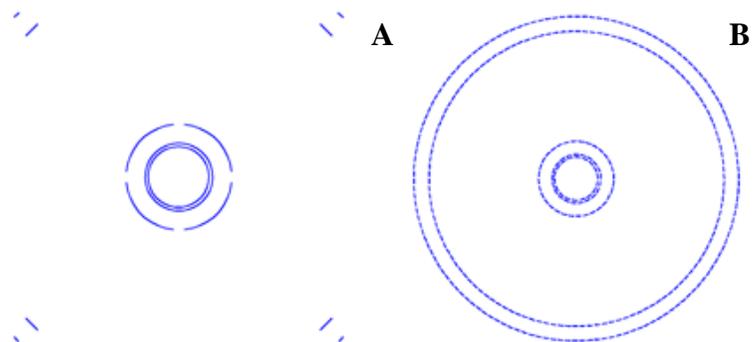
In preparation for the isolation of mandala elements in the three figures following this one, Figure 4-12, B, is coded to



**Figure 4-12.** Plan of the Cloister at Arles **A)** Plan. **B)** Coded plan. (Drawings by author.)

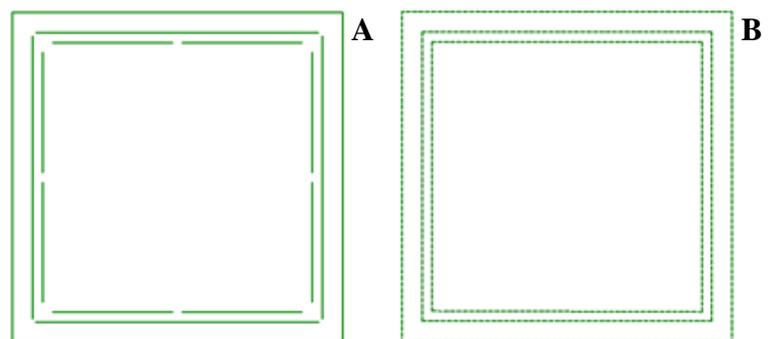
reveal circles, squares, and quartering lines whether complete, partial, or implied.

Existing circular elements; whether complete, partial, or implied; are isolated in Figure 4-13, A. Incomplete circles are connected in Figure 4-13, B, as well as the four corner angles that imply a circle. This reveals the circular geometry that is part of the design's basic pattern.



**Figure 4-13.** Circles at Arles' Cloister. **A)** Complete and implied circles. **B)** All circles completed. (Drawings by author.)

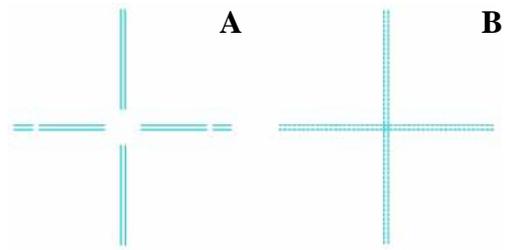
Existing rectilinear elements, complete and incomplete, are isolated in Figure 4-14, A. Incomplete or implied rectangles/squares are finished in Figure 4-14, B. A significant rectilinear geometry is revealed, with its outside boundary formed



**Figure 4-14.** Squares at Arles' Cloister. **A)** Complete and implied squares. **B)** All squares completed. (Drawings by author.)

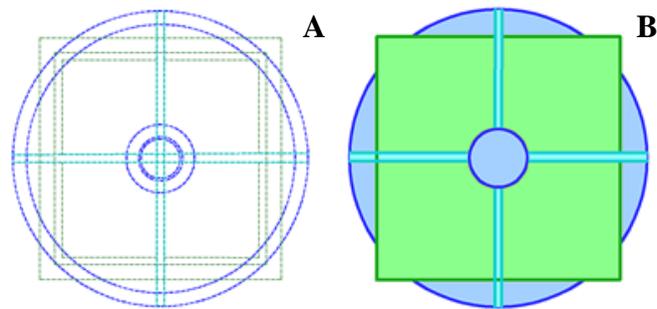
by the perimeter of the steps leading through arched openings framed by the columns.

In Figure 4-15, the paths that divide the courtyard garden into four quarters are outlined. As shown in Figure 4-15, A, they are incomplete. In Figure 4-15, B, gaps are filled and lines drawn in to show their crossing at the center of the design. Such lines unambiguously divide the plan of the Cloister garden at Arles into four equal parts.



**Figure 4-15.** Quatering lines at Arles. **A)** Incomplete quatering lines. **B)** Completed quatering lines. (Drawings by author.)

Isolated elements as shown in Figures 4-13, B; 4-14, B; and 4-15, B; are overlaid into one synthesis in Figure 4-16, A. This combined geometry is filled with color in order to more clearly reveal the pattern that underlies the courtyard design at the Cloister at Arles. A variation on a classic mandala image is the result.



**Figure 4-16.** Synthesis of isolated elements and extracted mandala for Arles' Cloister. **A)** Overlaid elements. **B)** Extracted mandala. (Drawings by author.)

It may therefore be concluded that the design of the Cloister at Arles is the result of the expression of a collective archetypal mandala pattern. This conclusion is supported by the symbolism of the Christian paradise garden, discussed at the beginning of this section, which accords with the symbolism of the mandala, as well as with the symbolism of the Muslim paradise garden.

### **Analysis of the Cloister at Arles**

Attitudes toward nature/the physical and culture/the abstract are thus symbolically contained within this one figure, nature as rectangular elements; culture as circular elements. The cultures of Muslims and Christians to this point are oriented to an all-powerful deity, represented by circular shapes at the center of the garden. This is a vertical orientation because it reaches symbolically upward toward this highest power. The physical world of Muslims and early Christians is subordinate to, in service of, the spiritual, and the ordered regulated pattern of paradise and medieval enclosed gardens reflects the desire to control the world outside garden walls. This world of physical matter is horizontally oriented because it symbolically reaches outward rather than upward.

## Psychological implications

Tuan (1974), in his seminal book *Topophilia*, discusses how a vertical type of orientation differs from a horizontal one in the way humans value and perceive their environment

The vertical world also is coupled with a metaphorical, cyclical and eternal world of nature and the mythical-sacred that transcends time. The horizontal world is the social-profane world bound to time and a secular commercialism. (pp. 129-130)

A vertical orientation, as discussed in the section on the Muslim Paradise garden and by Tuan, implies a psychological centering on a spiritual world that transcends the physical world. The central location of the main circular elements also suggests this. The fact that these gardens are introverted in their attitudes further expresses this focus, always bringing the mind and eye back to the spiritual center of the garden. Thus, their orientation is not only upward but inward to a contemplation of what is around them and what they represent. (Hobhouse, 1997, p. 78-79; Jellicoe & Jellicoe, 1995, p. 147)

This inward contemplation began to turn outward toward the end of the Middle Ages in Europe, and a process began that ultimately reshaped Western society. Tuan (1974) posits that some time between 1500 and 1700, A.D., the medieval conception of a vertical cosmos yielded slowly to a new and increasingly secular representation of the world. The vertical dimension of the cosmos gradually gave way to a flat segment of nature called landscape. Human cultural attitudes reflected this increased valuing of the horizontal, a psychological shift toward the world of the concrete. In an equal and opposite reaction, the spiritual side of humanity was devalued. (Rogers, 2001)

One of the things that may have contributed to the change in the way humans regarded the world around them was the Christian attitude toward nature. According to Rogers (2001):

By making wild, uncultivated nature the domain of demons, Christian thought devalued nature and robbed it of its previous sanctity. . . . Because an apocalyptic ending of human history was predicted and all hope fastened on the afterlife, the beauty of Earth was devalued. Further, denial of the real world gave license to the exploitation of nature and its subjugation to human will.

Subjugation of nature to human will meant actual control, rather than symbolic control only, as exemplified in both the paradise garden and enclosed cloister/castle garden. The world was no longer such a frightening place. There was land outside castle and monastery walls that could be used to man's profit; no longer did we have to remain huddled within fortress-like constructions.

Humanity is the central focus of a horizontal world, and this outward-reaching landscape presages the coming Renaissance with its humanistic attitude and its inclusion of the exterior world rather than its former exclusion. The Renaissance was also preceded by a flood of knowledge that became available; learning was no longer confined to monasteries. Ancient texts and drawings were published; ancient ruins, such as Hadrian's Villa, were excavated and studied. (Rogers, 2001, p. 125)

### **A Renaissance Garden**

By the middle of the fourteenth century, the richer Italian nobles began to lay out extensive ornamental gardens, turning fortified castles into pleasure palaces. (Hobhouse, 1997, p. 85) They were inspired by the villas of ancient Rome and the formal gardens with which these villas were surrounded. More specifically, according to Rogers (2001), the evolution of Renaissance garden design reflected a "changing cosmological belief." (p. 125) Rogers supports this conclusion by citing a series of discoveries that took place from the mid-1400s to the 1700s and that reversed the Aristotelian outlook of an earth-centered universe. These include the following: Unbounded space and a cosmos with no center was posited in the 1400s by Nicolaus of Cusa, a humanist philosopher and mathematician.; a century later, Copernicus said that the planets traveled around the sun rather than around the earth; and a century after that, Gallileo perfected the telescope so that the planets and stars could be studied by anyone. Not only was there no longer a center to the universe, but earth was just one more planet among many circling around a star that was one among many. An introverted, spiritually-centered, self-contained garden no longer fit the evolving cultural attitudes.

### **The Culture of the Renaissance**

Humanism became the prevailing philosophy for the intellectuals of the Renaissance, developed as a result of the rediscovery of many Latin and Greek texts. Its genesis was in Florence at the end of the Fourteenth Century, and it emphasized human dignity and potential as well as the place of humans in nature. Attitudes of humility, introspection, and passivity; portrayed in mandalas in the two previous sections; were discounted, with human experience and reasoning taking on a new importance. Basic to the movement was the idea that beauty represented inner virtue and value, becoming a necessary element on the path towards God. (*Renaissance humanism*, 2006)

Antique classical ornament was rediscovered and used to glorify their human owners. Sculptures of ancient gods and goddesses adorned lavish gardens that were built as intellectual retreats from the daily business lives of rich and powerful princes, secular and otherwise. (See Figure 4-17.) Those who professed to have committed their lives to the one God of Rome's Holy Mother Church became equally passionate collectors. Rogers (2001) discusses how



**Figure 4-17.** A fountain at Villa Lante adorned with ancient gods and goddesses. (Photograph by Sara Katherine Williams.)

this resurrection of ancient deities and their acceptance by the church made “profane subjects as important as sacred ones and as useful for artistic purposes.” She goes on to say that classical mythology, embraced by Pope and Cardinals alike, was seen as prefiguring the Christian religion and thus superseding the Christian paradise imagery of the Middle Ages. (p. 126) The people of the Renaissance were also fascinated by astronomy and astrology, seen as two parts of the same whole, and by the mystical symbols associated with these. Classical myth was held as equal to Christian mystery, a sharp departure from medieval beliefs. (Rogers, 2001, p. 126)

All of this resulted in a devaluing of the spiritual half of Renaissance life. It no longer existed on a separate plane, metaphorically above the mundane world. Humans psychologically moved upward to take their place by the side of God. The church did not have a problem with this new balance. Italy had a long tradition



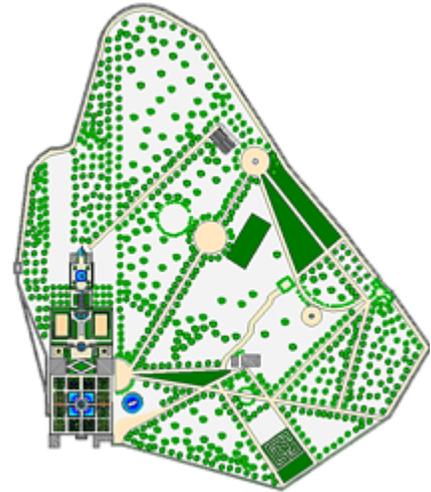
**Figure 4-18.** View of Villa Lante's lower parterre. (Photograph by Sara Katherine Williams.)

of “free thinking,” originating in the fact that opposition to the Pope had always existed to some extent. The new humanism simply took this individualist thinking a step further, and the church permitted it. (Jellicoe & Jellicoe, 1995) The mandala pattern, with circle and square on the same

horizontal plane and embedded within the larger design of many Renaissance gardens including Villa Lante, Figure 4-18, psychologically expresses this attitude. The power of the spirit-centered mandala of past gardens is spread throughout the composition rather than focused on a single spiritual center.

Villa Lante is attributed to architect Giacomo da Vignola, c. 1568-1579, and is one of the quintessential Renaissance gardens, Figure 4-19. (Rogers, 2001, p. 143). According to Jellicoe & Jellicoe (1995) its design, along with that of many other Renaissance gardens, has certain characteristics that distinguish it from gardens of other periods. These characteristics include the following:

- It is sited on sloping ground;
- It is walled for protection from the wilds outside it;
- Its sloping site makes it open to fresh air, sunshine, and cooling breezes;
- Inside the Palazzina Gambara are frescos of topographical views and northern-inspired landscapes, as well as a fresco of its garden, Figure 4-20, bringing nature into the villa itself (Lazzaro, 2000);
- Planning and orderliness are evidenced by straight lines of trees and by a plan that Rogers (2001) calls a “counterpoint of circles and squares” with a “balance and harmony of design.” (p. 143);
- Evergreen box parterres are cut into fanciful shapes that are maintained over time in an unaltered state, while stone and water are equally unchanging in either the permanency of its shaping by the stonecutter’s ax or the constancy of its flow through Lante’s many fountains;
- Two of Villa Lante’s three grottoes provide refreshment at the midway point in the progress through the garden, while the third is located in the cave at its topmost level;
- The spreading view of the town of Bagnaia and the surrounding countryside that is seen from the upper terrace of Villa Lante’s garden, whether it is reached by climbing upward from the level of the water parterre or through the wooded park, provides a dramatic surprise for a visitor.



**Figure 4-19.** Villa Lante’s garden and park. (Drawing by author.)



**Figure 4-20.** Fresco at Villa Lante. (Photograph by Sara Katherine Williams.)

Renaissance gardens were inspired by ancient geometry and proportion, as well as by classical verse and art. This aspect is evidenced in the narrative told by a garden. In *Landscape Narratives* Potteiger and Purinton (1998) state that Villa Lante’s design is based on Ovid’s *Metamorphoses* in

which “all the various forms of life emerge from the same primal matter, shifting shapes in the process.” In telling this story the designed landscape incorporates “icons, sculpture, topography, fountains, and vegetation” to make it explicit, at least if one has the necessary education and background to understand its symbols. (p. 41)

When a visitor enters through the park’s gate, s/he is greeted by a sculpture of Pegasus in a pool. According to Potteiger & Purinton (1998), it refers back to ancient Rome and its world of art and myth, an important aspect of Renaissance lore, as well as representing the actual restoration of water to the site. (p. 42) They continue: “*Metamorphoses* sets up the dual structure of the garden as a chronological history set against a timeless golden age”



**Figure 4-21.** A pool in the “wilds” of Lante’s park. (Photograph by Sara Katherine Williams.)

that is the park. (p. 46) This unchanging golden age existed in the beginning and is a stable ideal that was destroyed by a great flood “after which humans have to labor to cultivate and perfect nature.” (p. 43) If one wanders through the park there are pools amid leafy greenness that recall nature untamed, Figure 4-21. However, if desired, paths may lead directly to the top level of the garden, and here the



**Figure 4-22.** Three fountains marking Villa Lante’s garden narrative. **A)** Crawfish water chain. **B)** The stone dining table with its water running through its center in order to cool wine. **C)** Fountain of the Moors on the lower terrace. (Photographs by Sara Katherine Williams.)

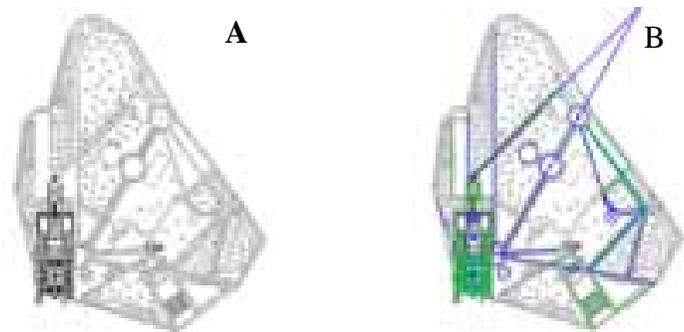
Grotto of the Deluge refers to the flood that destroyed the golden age. From this point to the lowest level of the garden is a chronological story of man’s progress through history. Along this axis, water installations represent the various forms that water can take. The sequence is: Fountain of the Deluge (origin, active) to the Fountain of Dolphins to the water chain (stream) to the Fountain of the Giants (rivers) to the Fountain of the Table (fertile plain/agriculture) to the Grottos of Neptune and

Venus to the Fountain of Lights (culture) to the Fountain of the Moors (lake/ocean, calm) It is a “narrative proceeding terrace by terrace, each one marking a distinct stage in the process and building upon the previous stage.” (p. 46) Figure 4-22 contains photographs of three of the fountains that mark the narrative’s sequence. According to its makers, the garden’s design is seen as reflecting human change and growth, in contrast to the park, which represents stasis. (p. 43) F

Villa Lante’s design has a clear conscious intent and is culturally specific. The question, then, is whether the psychological interpretation of its visual analysis agrees with its conscious intent and what attitudes toward nature and culture are unconsciously expressed by the arrangement of its circles and squares, whether combined into traditional mandalas or not. In preparation for this analysis an inventory will be taken of its mandala components.

### Villa Lante Inventory

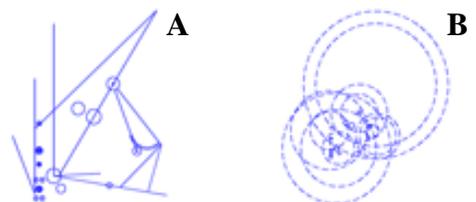
Figure 4-23, A, shows a line drawing of Villa Lante’s plan that includes both the garden and the park. The same line drawing has been color-coded in 4-23, B. Actual and implied circles, squares, and quartered crossings are coded blue, green, and cyan, respectively, in the second drawing. As with previous



**Figure 4-23.** Plan of Villa Lante’s garden and adjacent park. **A)** Line drawing. **B)** Drawing color-coded for actual and potential circles, squares, and quartering lines. (Drawings by author.)

gardens, these elements are inventoried separately before they are combined into a synthesis figure that enables psychological interpretations.

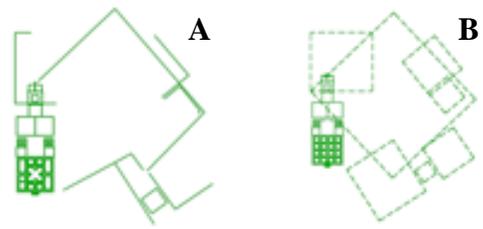
Circular components are isolated, A, and implied circles are completed, B, in Figure 4-24. The park’s radial paths locate centers and determine radii of associated circles. Since paths are not uniform in length, circles of different size are generated from the same locus, producing quite large circles not apparent at first glance.



**Figure 4-24.** Lante circles. **A)** Implied circles. **B)** Implied circles completed. (Drawings by author.)

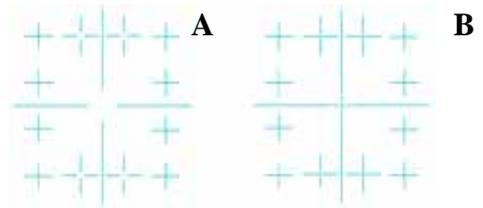
The composition begins to take on very different aspects from past garden patterns.

Square or rectilinear elements are isolated, A, and completed if necessary, B, in Figure 4-25. Notice the clear dichotomy between the arrangement of those in the garden portion of the composition and the more dynamic arrangement of squares that are in the park. Garden squares are also located on a strict North-South orientation, while squares in the park, save one, are not.



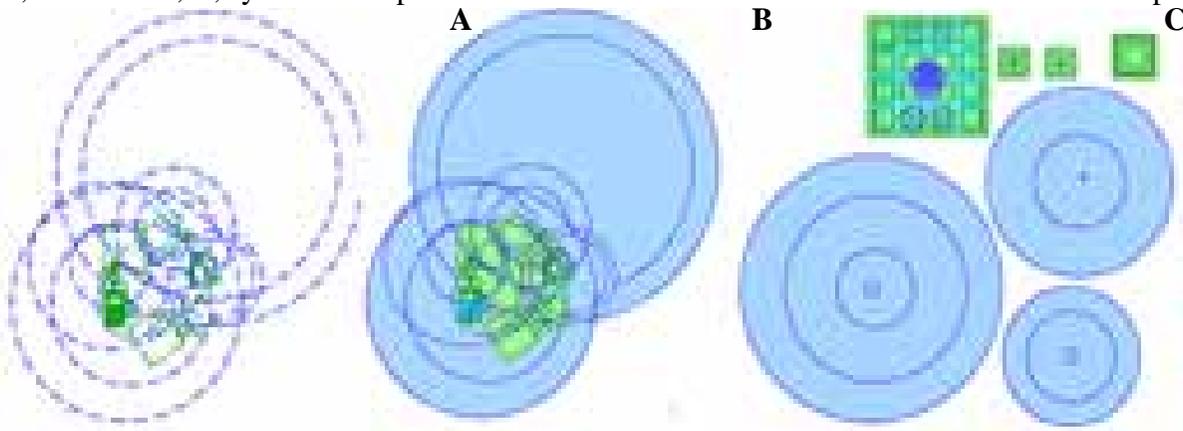
**Figure 4-25.** Lante squares. **A)** Squares and implied squares. **B)** Implied squares completed. (Drawings by author.)

The last element are lines that divide traditional mandalas into equal quarters, Figure 4-26, A, and B. These quartered crossings are found only in the garden's lower terrace in the elaborate water parterre. The lack of crossing lines in other parts of the composition further confirms the dramatic differences already seen in the expression of circles and squares in the Renaissance garden and those in Paradise and Medieval gardens.



**Figure 4-26.** Quartered crossings. **A)** Existing quartered crossings. **B)** Completed quartered crossings. (Drawings by author.)

Finally, isolated elements from Figures 4-24, B; 4-25, B; and 4-26, B; are overlaid, Figure 4-27, A. In 4-27, B, synthesis shapes are filled with coded color in order to reveal its overall pattern.

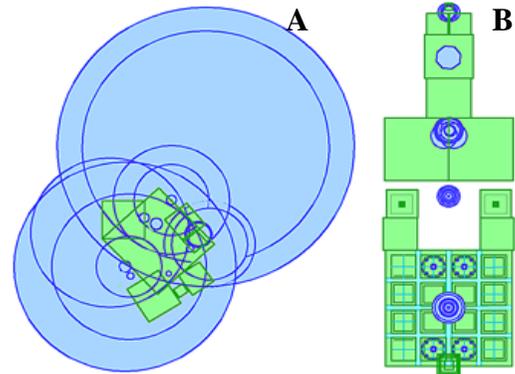


**Figure 4-27.** Synthesis. **A)** Combined elements. **B)** Color-filled synthesis. **C)** Traditional mandalas extracted. (Drawings by author.)

Traditional mandalas embedded within the overall configuration are shown in Figure 4-27, C. These mandalas are interesting and show that there are indeed collective archetypal images here, but they are less informative than the overall configuration of circles and squares revealed in Figure 4-27, B.

## Analysis of Villa Lante

The detailing of an archetypal pattern, when expressed, is influenced by the individual whose thoughts or actions call forth the archetype. (Jung, 1959, new material 1969) It follows that, since an individual is influenced by his/her containing culture and his/her experiences within that culture, that the culture therefore influences the details of an archetype's expression. Thus, when a shift in cultural attitudes



**Figure 4-28.** Villa Lante's analysis. **A)** Park. **B)** Garden. (Drawings by author)

occurs, as in the Renaissance, there is also a shift in collective archetypal details as expressed within the changing culture. As Jung (1964) explicitly states, representations of an archetype, such as a mandala, "can vary a great deal in detail without losing their basic pattern." (p. 67) As discussed previously, psychological meaning is the same regardless of this personal detailing. It is clear that the expression of mandala components at Villa Lante is not the same as in previous eras. Figure 4-28 reveals that Villa Lante's two parts; park, A, and garden, B; also present a very different pattern in each. They will be discussed in separate sections because of this.

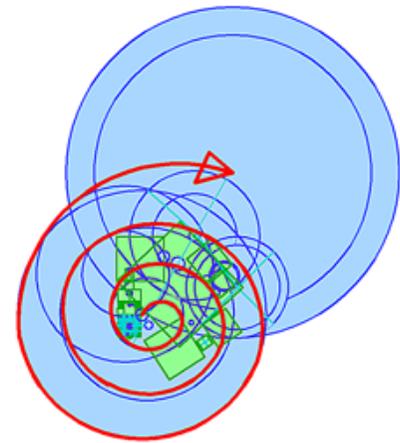
## Psychological implications

**The park.** Immediately apparent when the park's analysis is examined is that circles dominate in both size and number, and the mandalas that are expressed within the park's analysis contain only circles. This has several implications. The most obvious is that ideas are overwhelmingly important in the Renaissance, as is true of any period in which there is a paradigm shift. There are new ideas on man's elevated place in the world, on the importance of human reasoning and experience. The fact that circles surround and enclose clustered squares implies that Renaissance ideas control the perception of nature. It is not true nature that is experienced but a controlled, tamed nature enclosed within walls -- the idea of nature.

However, nature plays a crucial role in Renaissance culture, as witnessed by the cluster of squares in the more-or-less center of a group of circles. The park represents the wilds found outside

its containing walls. In this respect it is reaching out to nature and reflects its importance in Renaissance thinking. The other aspect is that scientific discoveries involved major changes in knowledge about the physical world. This in turn sparked new cultural ideas. This is the primary cause for the development of Renaissance attitudes toward nature/the concrete and culture/the spiritual. (Rogers, 2001) Circles, representing cultural ideas, appear to swirl around the cluster of squares, representing the physical environment, reflecting these attitudes, Figure 4-29.

None of the circles or squares in Villa Lante's park are divided by quartering lines. This may be attributed to the fact that they are in motion rather than in a stable relationship. The division of a mandala into four equal quarters, as discussed earlier, is symbolic of psychological wholeness and supports a stable, traditional mandala expression. The new discoveries about the natural world combined with the new ideas of man's place in it result in attitudes that are in flux and no longer reflect the old cosmos in which humans are embedded and participating within a seamless universe. Attitudes toward nature and culture are both still evolving, not only in how humanity regards them but in relation to each other.



**Figure 4-29.** Swirling circles around clustered squares. (Drawing by author.)

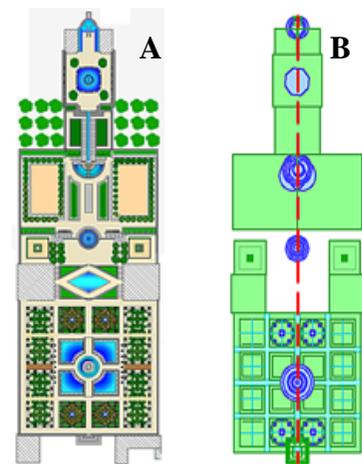
The above psychological interpretations are interesting and, I think, are implied by the park's pattern of circles and squares. However, what is most fascinating is the disconnect between their dynamic interaction and the narrative around which the park is designed. The conscious intent of the designer is to convey the idea of stasis, the timeless and unchanging golden age that existed before man's labor and art produced the new golden age of the Renaissance. What was conveyed unconsciously was the reality of Renaissance attitudes toward nature and culture, which is anything but static. Psychologically, the Renaissance is a time of transition, of change, and central to this change are ideas derived from knowledge about the concrete, physical world.

**The garden.** The synthesis of forms in the garden portion of Villa Lante contrasts greatly with that of the park; see Figure 4-28. It also is part of a much larger composition, of which the greatest portion is the park. I am not proposing, therefore, that the garden's analysis is of equal

weight to that of the park's. Rather, it augments the interpretations in the above section, making its own contribution to the overall picture of Renaissance attitudes.

As with the park, one element dominates the garden's composition. In this case it is squares rather than circles, and, as with the park, its mandalas contain only one element. In this case, the mandalas are squares within squares except for the centered circle in the lowest parterre. The multiplicity of squares suggest the importance of nature to Renaissance man, and Rogers (2001) states that Renaissance man felt a close relationship with nature. Nature is thus not simply an idea here; it is to be experienced, on display throughout the length of the garden. Central to this display are ideas taken from ancient writings. This is reflected in two ways.

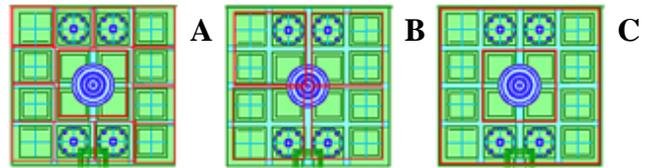
First, physical elements of the garden are manipulated in order to convey these unchanging ideas. Such ideas are static when they are lifted "whole cloth" from a distant time, as did the intellectual elite of the Renaissance. These ancient ideas, woven into every aspect of the garden's design, result in a rigid arrangement. It follows a strict North-South orientation, with no rotated elements and with all squares in a perpendicular relationship, Figure 4-30, A.. The rigidity of the garden's design may also reflect the Renaissance search for perfection that, once achieved, should maintain its perfect state.



**Figure 4-30.** Garden design and axis. **A)** The design. **B)** Garden axis. (Drawing by author.)

Second, surrounding oneself with beauty, whether in an elaborate garden or through sculpture and other art derived from the ancients within that garden, is seen as a necessary ingredient on the path to God. (Potteiger & Purinton, 1998, p. 64) This is an idea central to the Renaissance, just as Villa Lante's circular fountains are positioned along a defining axis that runs through the exact center of the garden from the Fountain of the Deluge at the top to the Fountain of the Moors at the bottom, as shown in Figure 4-30, B. These fountains take up a small amount of space compared to the garden's squares, but their location along the axis makes the importance of ideas to this garden evident. Reinforcing this is the number of overlaid circles that compose most of the fountains.

The only mandala in Lante's composition that resembles a traditional mandala with quartered crossings is in the design of the lowest terrace. Unlike those in the past, where the focus is concentrated in its spiritual center, here it is embedded within a



**Figure 4-31.** Water parterre mandalas. **A)** thirteen small mandalas, or **B)** four larger mandalas, or **C)** one large mandala. (Drawings by author.)

much larger pattern, its power thus spreading beyond the confines of its outline, just as the spiritual was diminished and devalued during the Renaissance. (See Figure 4-30, A.) Lante's single large mandala is composed of thirteen smaller mandalas that may be recombined into four, Figure 4-31, A, B, and C. This is more evidence of nature's significant role during the Renaissance period.

Villa Lante's garden was also designed to tell a story. As described earlier, man's progress was symbolically chronicled through a series of fountains and terraces that began with the Fountain of the Deluge (the flood) at the top and ended with the Fountain of the Moors at the bottom (the new golden age of the Renaissance). The intended message is one of growth and change, which is in direct opposition to what the design's composition conveys psychologically. The interpretation of mandala elements in the garden are derived from their actual arrangement and the psychological relationships that may be inferred from this. The rigidity of the design, dominated by squares, portrays the fact that this garden's nature is manipulated in service to ideas derived from the dead past, which in fact it is. Its arrangement is not one that reflects dynamic change and growth.

Consciously, then, park and garden were to convey contrasting themes: The park one of stasis and an unchanging golden age before the human history leading up to the Renaissance; the garden one of growth and change after the flood that ended the golden age of the past. And, psychologically, park and garden do portray contrasting themes -- just not the ones intended. Instead of implying stasis, the park's composition is dynamic, with circles and rotated squares appearing to swirl around each other. Contributing to the overall feeling of movement are the many different sizes of circles and squares. Instead of implying growth and change, the garden's composition is static and rigid, in thrall to ideas derived from ancient writers and artists. The garden is, however, a small part of the overall composition, and it is, despite its differences, embedded within the larger pattern.

When viewed as a whole, the overwhelming psychological message conveyed by Villa Lante's analysis is the influence and importance of Renaissance ideas. These ideas control the perception of nature. This may be in part due to attitudes culled from ancient writings about art, nature, and beauty but were probably largely due to new scientific discoveries about their physical world that led to new ways of thinking and perceptions on the importance of man. Such ideas had far-reaching consequences and laid the basis for those of the Baroque era that followed. (Rogers, 2001)

### **A Baroque Garden**

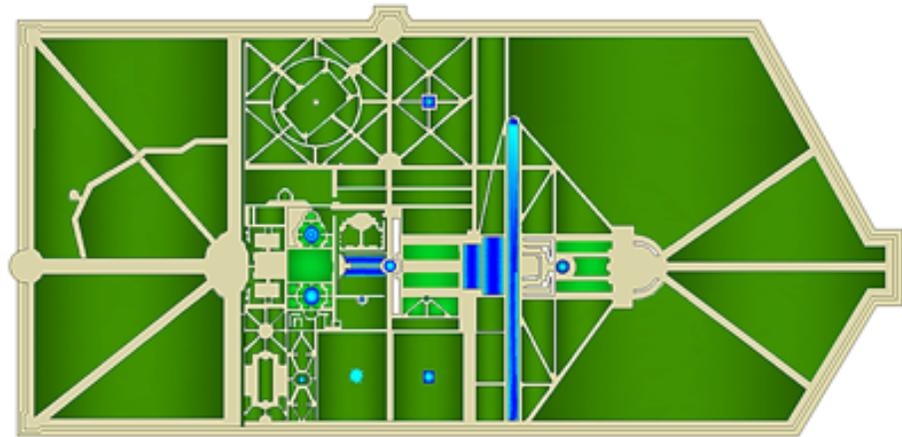
There are several things that distinguish the Baroque garden from those coming before it, but two things immediately stand out. First is the sheer scale of the composition. In the Paradise garden contact with the gods was limited to an intimacy embodied by a single fountain bubbling in the center of a geometrically-ordered square or rectangle. Like the Paradise garden, the Medieval garden was intimate, enclosed, ordered, made for human contemplation. In Italy, the Renaissance garden, though often large, was also human in scale; larger, more all-encompassing than the Paradise gardens of earlier periods but still an abode for humans and a place for intellectual pursuits and contemplation of human concerns. By contrast, the French Baroque garden is a garden of the gods, a place these gods can inhabit, with an appropriate scale for their larger-than-life mien. Second, there is a limitlessness to the perspective view of the Baroque garden, in which ground and sky seem to merge and go on forever, again appropriate for the discerning eye of a god who has no limits to his/her vision. The Renaissance garden, despite its axial thrust that sharply differentiates it from its predecessors, is always hemmed in by walls, and, as noted earlier, its reaching out is symbolic only, not a total commitment. The French Baroque garden is without barriers to the mind's eye in its continuing journey beyond the horizon and into a world that may be unknown for the moment but not unconquerable. In this garden humans have put themselves firmly on the plane of the gods and, with a fine sense of theatre, have taken control of the stage.

### **The Culture of the Baroque**

Several factors came together to produce the psychological climate that enabled the great landscape designs of seventeenth century France. For one, France "reached her greatest period of wealth and power and, in addition, became the major arbiter of taste throughout Europe" during this

period. (Laurie, 1986, p. 36) As the divine embodiment of this power and the ultimate authority on superior taste, Louis XIV, the Sun King, had the economic means and the artistic temperament to make happen whatever he desired. After visiting Vaux-le-Vicomte, what he desired was a landscape garden that would eclipse that one.

Vaux-le-Vicomte, Figure 4-32, was designed and constructed, at great expense, for the Lord High Treasurer of France, Nicolas Fouquet. Three weeks after Louis' visit, not only was Fouquet



**Figure 4-32.** Plan of Vaux-le-Vicomte. (Drawing by author.)

arrested and imprisoned for the rest of his life, but Louis confiscated many of Vaux-le-Vicomte's art objects as well as its three designers to work for him. The young Louis, only 22, took his revenge on the finance minister who tried to compete with his king in the largeness of life lived, in his artistic pursuits, and in courting the King's mistress. (Courcelle, 1997)

Vaux-le-Vicomte, completed in 1661, was Andre Le Notre's first major commission, and it is the design that is analyzed in this section. Le Notre was almost fifty when he received this major project, and, until that point, was head gardener at the Tuileries in Paris, a post his father held before him. (Taschen, 1990, p. 100) The Baroque garden, as designed by Le Notre and as embodied at Vaux-le-Vicomte, is the manifestation of attitudes that were prevalent at this time in history, as is discussed in the following paragraphs.

Michael Laurie (1986), a distinguished professor at the University of California at Berkeley during his lifetime (1932-2002), wrote this on the subject:

The strong axial layout, symmetry, mathematical proportions, and infinite perspective of the seventeenth-century French garden reflect the wealth and power and rigid social structure of France and the evolving concept of man's ascendancy over nature. (p. 37)

Rogers (2001) sees Le Notre's designs as reflecting the cosmological views of the time.

This illusion of indeterminate axial extension provides a landscape analogue to the spatial concepts of Rene Descartes (1596 - 1650), the French philosopher, mathematician, and founder of analytical geometry. Descartes believed that starting from skepticism the human intellect could comprehend the mathematical principles underlying God's creation. . . . With Descartes, the scientific enterprise itself became boundless, and this new mode of open-ended inquiry helped establish fresh cosmological premises. . . . Cartesian space . . . is boundless . . . . It's nondistinctive status helps account for the abstract character of Le Notre's designs, which express Descartes's attempt to geometricize all nature . . . (p. 166)

Descartes also believed that humankind "could, through deductive reasoning, grasp and control the world." (p. 166) This means knowledge of and control of the inner workings of all nature. This is the cultural attitude displayed by Le Notre's exquisitely precise trimming of shrubs and trees and the new *parterre de broderie*, Figure 4-33, as well as by the limitless axial

perspective. Humans are the gods that inhabit Le Notre's grand gardens, with one human in particular, Louis XIV, its embodiment. The Sun King was divinely appointed, and it was through his person that the intellectual superiority of the French nation was symbolized. The gardens were also hugely expensive, more testimony to Louis' economic power as well as to his superior taste. (Rogers, 2001, p. 167)

As with the Renaissance garden, Le Notre's gardens had characteristics in common. These characteristics are distilled into a set of compositional principles in Jellicoe & Jellicoe (1995), as follows:

. . . (a) the garden no longer to be a mere extension of the house, which itself became part only of a great land composition; (b) solid as opposed to two-dimensional geometry based on axuality, related to an undulating site; (c) shape as though carved out of ordered woodlands and crisply defined by *charmilles* (clipped hedges); (d) the Baroque quality of unity with sky and surroundings achieved by water reflection and avenues leading indefinitely outwards; (e) the scale expanding as it receded from the house; (f) sculpture and fountains, themselves works of art, to provide rhythm and punctuate space; (g) the science of optics to direct the eye firmly without power to roam, and illusionist devices to make distance seem nearer or further; (h) the apparent



**Figure 4-33.** View of Vaux-le-Vicomte's *parterre de broderie* from the window of the salon. (Photograph by Sara Katherine Williams.)



**Figure 4-34.** View from the chateau's terrace. (Grove Art Online; August 2, 2006)

revelation of the whole project in a glance, and the later element of surprise and contrast mainly in intimate woodlands; (i) the disposal of all parts, and especially of steps and stairways, for the dignity and enhancement of persons in movement; their scale to be larger than life, and thus to give a sense of being within an heroic landscape of the gods. (p. 179)

Vaux actualizes these principles of composition in its design in the following ways.

- The chateau is clearly embedded in and part of the overall design, Figure 4-32. Part of the reason for this perception is the scale of the landscape in which the house is placed; part of it is the simple fact that the house is surrounded on all sides by elements of the composition.
- Le Notre used Descartes' analytical geometry as a tool in order to precisely calculate the proportions of his design's component parts and the effects of perspective on those viewing the garden. (Rogers, 2001, p. 166) Cartesian geometry established the concept of the X, Y, and Z axes, and with this idea Le Notre was able to subtly manipulate the ground plane, creating hidden surprises with grade changes that only became apparent as one moved through the site. For example, from the terrace of the chateau the site looks flat, and the grand canal is not visible until one actually reaches it, Figure 4-34.
- Northern France is, generally, a wooded area, and French gardens tend to appear as "clearings in a forest." (Laurie, 1986, p. 37) Originally Vaux's forest edges were clipped into straight planes, expressing visually man's control over nature, appearing as if it was carved out of the woodlands. This is no longer maintained due to its great expense, but the effect can still be perceived in the contrast between the dense edge of the vertical woodland and the precision of the horizontal plane, Figure 4-35.
- Several large pools imply infinity in their reflected sky, as its central avenue does when it leads the eye outward into a merging of sky and horizon in the distance. (Figure 4-33) Such moats, canals, and still water not only achieve the desired effect of implying infinity but fit the gently rolling terrain with its slow-moving rivers and marshland and its climate.
- The plan of Vaux-le-Vicomte, Figure 4-31, shows that parterres around the chateau are kept to a human dimension. As one gets farther away the scale of elements increase in order to convey the grandeur of the gods.
- Figure 4-36 shows the effectiveness of topiary shrubs that define the edges of avenues and beds and are, in essence, evergreen sculptures. The spatial punctuation of sculpture and fountains brings a human three-dimensionality to the spatial environment as the visitor is pulled through the garden by vistas that continue beyond the horizon line.



**Figure 4-35.** Contrast between vertical forest edge and horizontal plane is evident here. (Photograph by Sara Katherine Williams.)



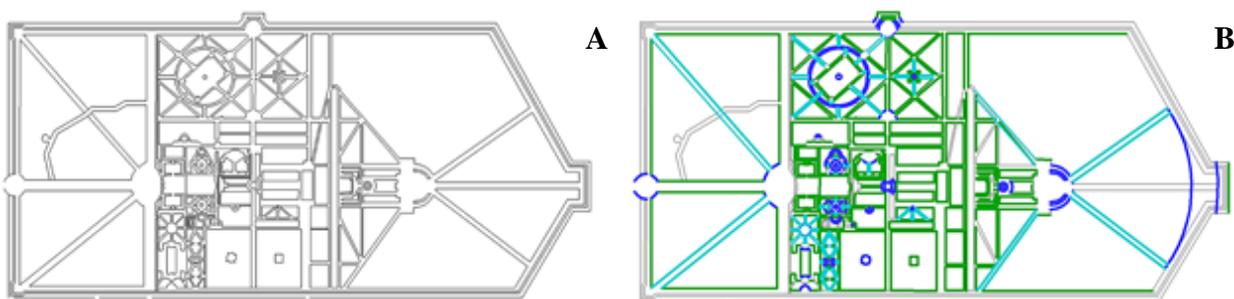
**Figure 4-36.** Sculptures, and evergreen topiaries punctuate space. (Photograph by Sara Katherine Williams.)

- At Vaux Le Notre used the science of optics to direct the eye and illusionist devices to make distances seem nearer or farther away. For example, from the spot where the statue of Hercules on the last grassy sward is first perceived to the statue itself is about half a mile, but its Herculean size makes it appear both closer and smaller, until one actually reaches it. (Rogers, 2001, p. 170) (The estate of Vaux-le-Vicomte measures about 3/4 mile wide by 1-1/2 miles deep, with the formal garden itself smaller.)
- From the terrace of the chateau at Vaux-le-Vicomte, the garden looks as if it is laid out for all to see in a single glance. (See Figure 4-34.) The large canal, created from a river that formerly meandered through the site, is concealed below grade, as are a grotto and large stone water cascade. (Rogers, 2001) Other surprises await to be discovered as one moves through the site.
- I could find no photographs to illustrate the fact that elements at Vaux, particularly steps and stairways, are built to fit an heroic landscape of the gods. (p. 179) However, Jellicoe & Jellicoe (1995) write of the “heroic scale” as the design expands outwards from buildings. (p. 183) Rogers (2001) writes that the “entire supporting wall of the terrace above becomes a giant water feature, the Grandes Cascades, a mighty wall of water, commensurate in effect with the scale of the canal beside it and a dramatic counterpoint to the grotto opposite.” (p. 170)

Vaux-le-Vicomte thus embodies the characteristics of Le Notre’s Baroque garden. These compositional principles, and the gardens that reflect them, arise out of the cultural imperatives of the time and place in which they exist and are unique to that culture in the details of each garden’s expression. They are specific, at least in their original expression, to the society in which they are manifested. The following section will inventory the pattern of Vaux-le-Vicomte’s design, after which the analysis section discusses the psychological implications of its mandala components and their revealed pattern.

### Vaux-le-Vicomte Inventory

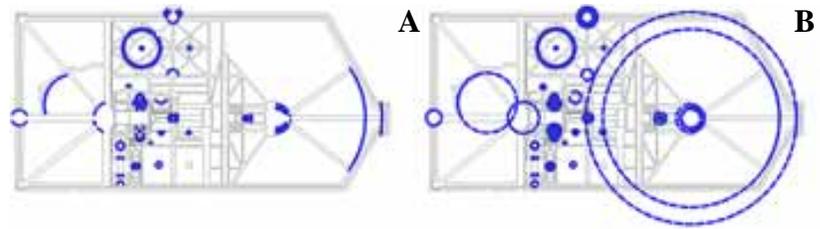
Before analyzing Vaux-le-Vicomte’s design, its elements must be inventoried. The plan is outlined in Figure 4-37, A, and color-coded in Figure 4-37, B. This process isolates, then completes



**Figure 4-37.** Outlines of Vaux-le-Vicomte. **A)** Outline of garden’s plan. **B)** Outline of garden’s plan coded for actual or implied circles, squares, and quartering lines. (Drawings by author.)

whole and implied circles, squares, and quartering lines as with gardens in earlier sections. After the inventory, the psychological implications that are inferred by the shapes’ relationships are discussed.

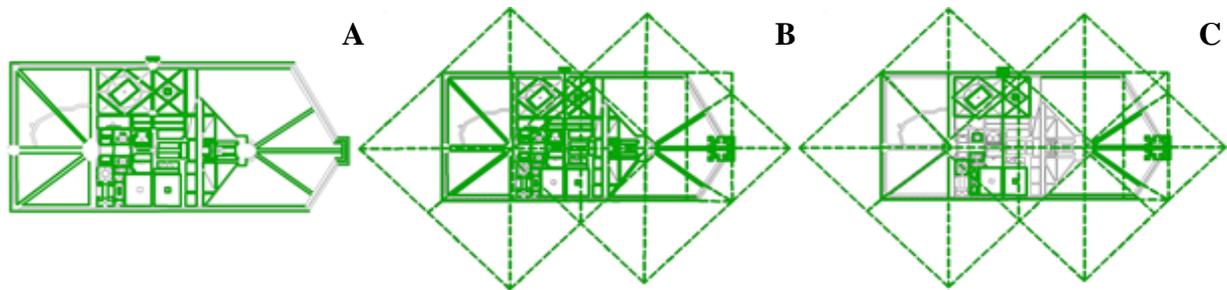
Circles are numerous at Vaux, both large and small, as seen in Figure 4-38. Fully-formed and incomplete circles are in 4-38, A. In 4-38, B, radials in the original design



**Figure 4-38.** Vaux-le-Vicomte circles. **A)** Circles as designed. **B)** Implied circles completed. (Drawings by author.)

determine the center and radii of the two large circles that enclose other, smaller ones.

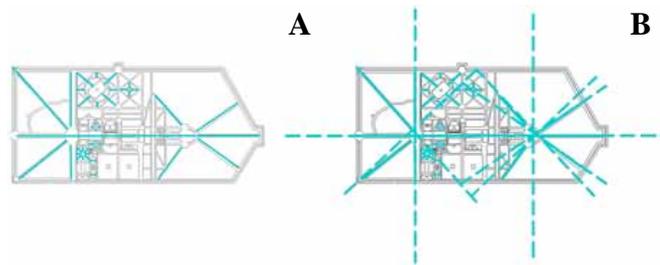
All rectilinear elements at Vaux-le-Vicomte are outlined in Figure 4-39, A. It is evident that squares/rectangles are the base of Le Notre's design. Incomplete/implied isolated rectilinear elements



**Figure 4-39.** Vaux-le-Vicomte squares. **A)** Rectilinear elements outlined. **B)** Implied squares/rectangles completed. **C)** Refinement of composition. (Drawings by author.)

are finished in 4-39, B. In Figure 4-39, C, single rectangles without centers or that are not reinforced with another rectangle or square are eliminated. This final figure is used for the analysis.

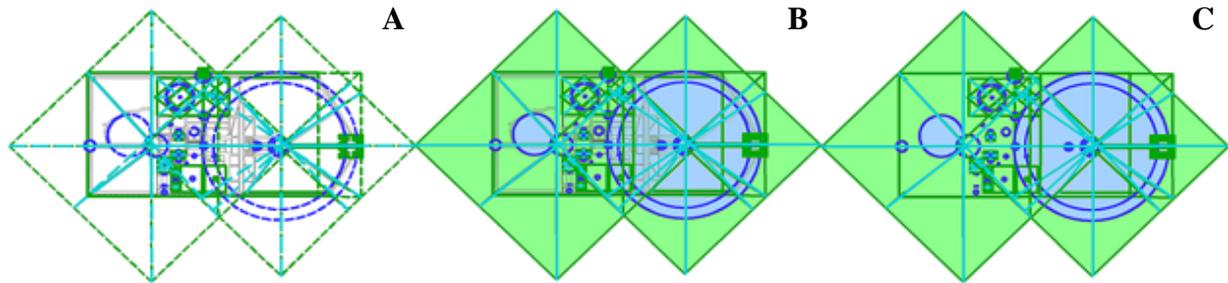
The last element to be isolated for the analysis are crossing lines that potentially divide mandalas into four equal quarters. Figure 4-40, A, shows those that are implied in the original design, while Figure 4-40, B, contains those same lines that are completed.



**Figure 4-40.** Vaux-le-Vicomte quartering lines. **A)** Implied lines. **B)** Completed quartering lines. (Drawings by author.)

The final step in the process that culminates in a psychological analysis of Vaux-le-Vicomte's garden is the synthesis of the above three elements. In order to perceive the overall pattern, each of the completed inventories is overlaid

in Figure 4-41, A. The resulting synthesis is filled with color in Figure 4-41, B. In Figure 4-41, C, the plan is removed from the synthesis.



**Figure 4-41.** Vaux-le-Vicomte synthesis. **A)** Inventories overlaid. **B)** Color-filled figure from A). **C)** Outline of plan removed from synthesis. (Drawings by author.)

The implications of the synthesis process pictured above are discussed in the analysis below.

### **Analysis of Vaux-le-Vicomte**

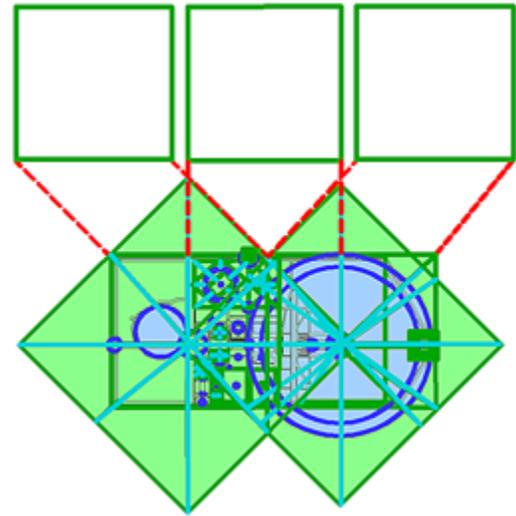
Major differences are immediately obvious when the Renaissance synthesis, Figure 4-28, and the Baroque synthesis; Figure 4-41, C; are compared. It would be surprising if this were not the case because, as demonstrated in previous garden analyses, attitudes toward nature and culture evolve as does the expression of circles and squares that make manifest these attitudes.

### **Psychological implications**

In the final Baroque figure, the two large squares dominate because they extend beyond the boundaries of both the garden and the large circles and enclose them. Supporting this dominance is the fact that, although there are many smaller circles, they all fall within one or more containing squares/rectangles. This implies that nature is dominant and that aspects of the physical world are responsible for cultural attitudes that are expressed here. The facts show this is the case. Scientific discoveries enabled a new control over matter that, in turn, caused changes in cultural attitudes. The new mathematics opened the human mind to expansive vistas that included a view of a humanity capable of deciphering all the secrets of the universe. The power of such thinking as an *idea*, that man possesses or will possess the ability to understand and manipulate all of nature, should not be discounted, however. The largest squares may control the overall outline shape of the synthesis figure, but the large circle extends beyond the limits of the original garden without going beyond the boundaries of its containing square. This implies at least some reciprocity between nature and culture. Each influences perception of the other. New knowledge of the physical world determines

cultural views on the infinite capabilities of the human mind that encourages more explorations and discoveries that influence a deepening view of man's ability to control nature, and so on and so on.

Another significant feature of Vaux-le-Vicomte is that it contains overlapping squares, Figure 4-42. Such squares, overlaid one on another, are one more indication of the crucial role that knowledge of the concrete has in this time and place. The fact that three overlapping squares/rectangles form the background of the entire composition of squares reinforces their importance. The inference is that attitudes toward the physical environment are not determined by a single big discovery but by a series of discoveries that build on each other, facilitating additional discoveries and bodies



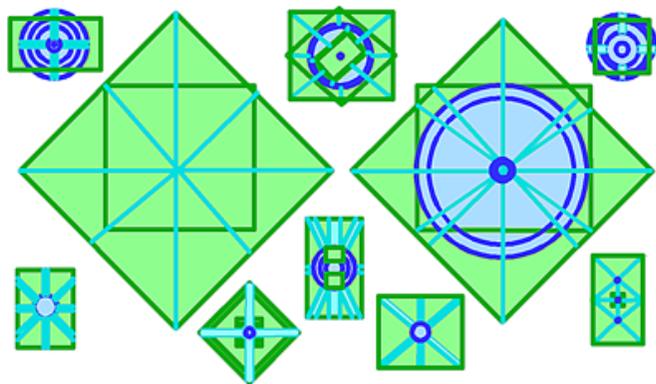
**Figure 4-42.** Overlapping squares in Vaux-le-Vicomte's composition. (Drawing by author.)

of knowledge. The new analytic geometry put forth in 1637 by Rene Descartes, for example, profoundly effected other areas, such as Baroque garden design. This new way of mathematically describing the physical is responsible for the development of calculus in Europe. It also lays the base for the modern mathematics of today. (*Analytic Geometry*, 2006) This is, of course, the way that it works; new knowledge enables new knowledge that enables more new knowledge, and so forth.

The Baroque synthesis also reveals additional facets of the transition from a vertical/spiritual orientation to a horizontal/physical one. This was a change-in-progress during the Renaissance, manifested by a psychological investment in the idea of beauty as art and nature together, as well as by the inclusion of sweeping views of the countryside into the design of grand gardens. However, the premise of interaction with real nature/matter was simply that, a promise to be fulfilled in the future. That future is the Baroque garden. It can be argued that where the Renaissance garden is set within walls that exclude experiences of the physical world of nature outside, the Baroque garden is immersed in this concrete world, both psychologically and in actuality. It is literally carved out of its surrounding woodlands, and its design is made possible through the use of new tools for manipulating the real world, indicated by the preponderance of squares over circles in the Baroque synthesis.

The most interesting implication of the synthesis is still to be considered. This is the rotation of some squares and the rotation and multiplicity of quartering lines in many of the mandalas that are extracted from the synthesis, Figure 4-43. There is one main inference to be derived from the rotation of squares and lines together, which is that rotation implies motion. The interpretation of Baroque movement is different from that of the Renaissance, however. The Renaissance synthesis reveals a nature and culture that appear to be moving in relation to each other. They are in the process of redefining their relationship, but they are moving separately, circles and squares still in flux with no quartering lines. The Baroque synthesis reveals movement of the entire mandala, with nature as the foundation from which cultural attitudes derive. The relationship is redefined in the sense that there is a shift, a rotation, in both attitudes, and this shift effects how humanity perceives the entire universe. Such a strong assertion can be made because a change involving the entire mandala implies global consequences rather than particular ones. This shift is not considered stable because rotating mandalas imply movement, and movement implies that continuing change is an inherent part of these mandalas. However, there are also smaller mandalas that are not rotated, extracted from the synthesis pattern in Figure 4-43. These reflect the possibility that the relationship between the circle and the square is temporarily congealed during this period, as reflected in the fixed square/circle patterns portrayed in most of the mandalas in Figure 4-43.

When quartering lines are analyzed as a separate element, they support the above interpretation because they appear to be whirling around a center in at least one mandala and are rotated off of their stable axes in many of the others. Such lines traditionally contribute to the four-fold symbology of wholeness but here add to the



**Figure 4-43.** Vaux-le-Vicomte's extracted mandalas. (Drawings by author.)

feeling of motion and reinforce the probability of a continuing evolution of attitudes. Though not in flux as they were during the Renaissance, it is clear that, from a psychological perspective, attitudes during the Baroque exhibit a proclivity toward a continued evolution involving the perception of both

halves of humanity's perceived universe. The only mandalas with quartering lines that exhibit traditional divisions are those composed of circles that go beyond the boundaries of their rectangular fields, and there are only two of these, leading to a supposition that ideas in some circumstances determine perceptions of nature in.

One final note for those who might be tempted to see these mandalas as a series of triangles because of the way the rotated axes divide the rectangular fields. The multiple crossing lines in the Baroque garden divide their mandalas into *triangular sections*. However, these sections are part of a larger figure; they do not stand alone, and their interpretation must, therefore, partake of the meaning of the overall figure rather than of an individual interpretation related to the triangle itself. I think that it is valid to regard these triangular sections as a portent of things to come and as additional support for changing attitudes forecast by the rotating movement of the two mandalas that enclose the entire garden. Regardless, the world of Louis XIV and that of the Baroque give way, after excursions into what has become known as the Rococo period, to the era of the English landscape garden during the first half of the Eighteenth Century.

### **An English Landscape Garden**

The English landscape garden, like the Renaissance garden in its time, represents a paradigm shift in humanity's relation to nature and, therefore, to garden design, Figure 4-44. This study focuses on the early decades of this dramatic shift rather than later variations. During this time the idea of nature, in terms of the landscape, goes from "demanding to be tamed and ordered," to landscape presented as "varied and diverse scenery to be contemplated and appreciated . . . ." (Rogers, 2001, p. 232)



**Figure 4-44.** English landscape garden. (Photograph by Sara Katherine Williams.)

Above all, nature is now "friendly." Preceding this idea is a philosophy that disagrees with Descartes' belief in unchanging laws upon which all life is based and that are discoverable by man. Although he did not experience the new type of garden himself, John Locke (1632-1704) laid the groundwork for it by declaring that sensory experience is the basis for all knowledge of the world. (Rogers, 2001, p. 232) As it evolved, then, this new type of garden emphasized the importance of

providing varied experiences -- sensations -- through changes in the landscape. This is a very different conception of the mind and its workings than previously held; deduction gives way to induction; the abstract to the personal.

This idea of nature as a series of experiences in the landscape is expressed in a group of gardens originating between 1730 and 1750; namely Rousham, Stowe, and Stourhead; and they are radically different from both the Baroque gardens of Le Notre that came before them and the more abstract landscapes of Lancelot “Capability” Brown that succeeded them in at least one major respect.

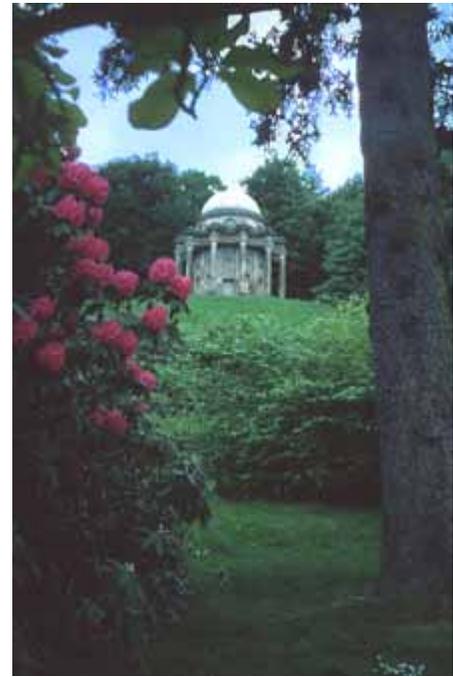
(Woodbridge, 1982) As Woodbridge (1982), author of the National Trust’s publication of *The Stourhead Landscape*, put it, Le Notre and Brown’s landscapes “have this in common, that they are both related to the house, either to display the architecture or to be seen from the windows.” (p. 10) In contrast, early gardens of the English school before Brown “are self-contained worlds, to which the owner could

escape and indulge his fancy.” (p. 11) Objects, including sculptures and buildings, are arranged so that a sequence of views reveal themselves as a visitor completes a set circuit of the garden, Figure 4-45. These encountered objects can, in the imagination of the visitor, represent anything, regardless of their intended allegorical or symbolic meaning. (Woodbridge, 1982)

The genesis of the English school is quite different from that of the Baroque and Renaissance gardens. One grows out of newly-discovered scientific truths that expand humanity’s horizons, the English garden arises out of the arts; including poetry, paintings, and writings of the period; with a little political spice thrown into the mix, as discussed in the following section.

### **The Culture of the English School**

Nature’s new face is not only friendly, but the landscape becomes an “equal partner” providing “inexhaustible interest, refreshment, and moral uplift,” while “irregularity rather than



**Figure 4-45.** Set view of the Temple of Apollo at Stourhead. (Photograph by Sara Katherine Williams.)

regularity' is the landscape design's objective. (Jellicoe & Jellicoe, 1995, p. 233) A confluence of factors come together to produce these changed attitudes. In part they result from the fact that the English countryside is an important element in country life and is inherently unsuited to the kind of layout required by the French garden. (Laurie, 1986, p. 43) Such elaborate formal gardens are also extremely expensive to make, and some English owners are reluctant to implement them. In the spirit of the egalitarianism of the times, Joseph Addison (1672-1719) in *The Spectator* of June 25, 1712, espoused turning an entire estate into a kind of garden for the owner's profit and pleasure:

Fields of corn make a pleasant prospect, and if the walks were a little taken care of that lie between them, if the natural embroidery of the meadows were helped and improved by some small additions of art. . . a man might make a pretty landskip of his own possessions.

Addison's essays in *The Tatler* and *The Spectator* were read extensively and "argued for a kind of landscape improvement that was anti-authoritarian and practical." (Rogers, 2001, p. 234) This accords with the rising feelings of democracy and the consciousness of human rights in England and the English distaste for formal gardens associated with the despotism of the French government. In some respects, then, the new garden style is a political rebellion against the despised absolute monarchy of France. Addison also extolls the virtues of the Chinese garden, displayed on Chinese porcelain and lacquer work coming into the country. Such scenes influence the development of the new landscape style by showing gardens, lakes, and waterfalls in an apparently undesigned and natural state. (Laurie, 1986, p. 43; Rogers, 2001, p. 234)

Poet and satirist Alexander Pope also influences the development of the English landscape garden. According to Rogers (2001):

By his writing and example, Pope actively publicized the style of landscape design favored by the Whig aristocracy and gentry as well as their literary and artistic friends. These Whig landowners, often with Pope's advice, initiated projects that wed English taste for country houses in the architectural style of Andrea Palladio with English scenery, creating landscapes that attempted to evoke 'the genius of the place.' (p. 234)

Land owners, such as Henry Hoare II at Stourhead, are thus encouraged to implement their own landscape concepts, helped by the fact that all cultured Englishmen of the time make a grand tour through the Alps into Italy and have experiences and knowledge in common. (Woodbridge, 1982) This exposes them to rugged picturesque scenery, which they later see in paintings by artists

such as Nicolas Poussin (1594-1665) and Claude Lorrain (1600-1682), both of whom lived and painted for a time in Rome. (Rogers, 2001, p. 235) These paintings, composites of elements lifted from specific places and arranged to suit whatever the artist is trying to convey, frequently contain classical Italian temples and allegorical figures. (Laurie, 1986, p. 43) During the grand tour, the overgrown gardens of Italian estates were also visited, and the idea of their picturesque charms carried back to England when they return. The landscape paintings of Lorrain, in particular, evoke memories of their Italian experiences and prompt the desire to imitate the scenes at their own estates. Lorrain's paintings embody for well-traveled Englishmen the "spirit of Virgil and a vanished Golden Age, the aura of which they had experienced as travelers . . . ." (Rogers, 2001, p. 235) Such literary allusions were important to the formation of the English landscape garden. According to John Dixon Hunt (1988), noted landscape historian, classical Roman writings about villa and rural life had the "most decisive literary influence . . ." (p. 11) Such writings promulgated the idea that not only contentment but virtuousness was to be achieved in a rural life that appreciated the "harmonious scheme of nature and its benevolent Creator." (p. 11) Hunt also points out that the "country estate gave local form to souvenirs of the Grand Tour." (p. 17) These included everything from paintings and sculpture to folios on villas and gardens, all of which helped the young man of fashion and taste repeat the "lessons of Europe as best he or his advisors could . . . ." (p. 17)

Despite all of this, crucial to the *oeuvre* of the new garden style is an unobstructed view into the landscape from gardens surrounding the house. With a visual break in this view, there is no seeming oneness with the surrounding landscape. Therefore, a true landscape garden cannot be realized without the creation of the *ha-ha*. (Rogers, 2001) Horace Walpole (1717-1797); the 4th Earl of Oxford; politician, writer, and an influential architecture critic; credits Charles Bridgman (c. 1680-1738), with creating this technique. (Wikipedia; September 12, 2006; Rogers, 2001) The *ha-ha* is a ditch with a fence that is below eye level constructed at its bottom, thus confining deer and/or cattle to their own areas while maintaining the illusion of unrestricted access into an artful nature. William Kent used this to great effect in gardens such as Stowe, Claremont, and Rousham. (Hobhouse, 1997)

Kent (1685-1748), whom Walpole called the father of modern gardening, spent an extended period of time in Italy as a young man, returning to England in 1719. (Jellicoe & Jellicoe, 1995) As

a painter, furniture designer, and architect he was uniquely qualified to implement his own vision and, in the process, to create gardens containing views such as found in the paintings that were so admired.

Kent's style is characterized by Hobhouse (1997) in the following:

Instead of harsh outlines of clipped trees, smooth-sided hedges, straight alleys and parterres, there were soft tree plantings in all their 'luxuriance' of growth, as if in a painting by Claude [Lorrain]. Avenues gave way to clumps, solid woods gradually dissolved into open sunlit glades carpeted with undulating lawn, all of which merged together as one landscape with curving paths inviting exploration as they revealed passing views. (p. 194)

Kent's methodology also encouraged landowners to "improve" their land with their own personal vision. His landscapes were designed and implemented without a surveyor's "line or level" as required by Renaissance and Baroque plans, by using his painter's eye to tell him where to place elements. Many untrained owners were convinced they, too, could design this way. (Hobhouse, 1997, p. 193) Perhaps another part of this development is that, during the 1730s, Kent "significantly revised the designs of Bridgeman, which had been considered progressive in the 1720s . . . ." (Rogers, 2001, p. 239) At Claremont, Stowe, and Rousham; for example; Kent introduced groves of trees in a naturalistic style that blurred Bridgeman's formal lines and generally created irregularity in these landscapes. (Hobhouse, 1997, p. 193) His work was thus a tutorial on how landowners could transform the straight lines that still existed in the landscapes of their own estates.

Stourhead, begun in 1743 and designed by Henry Hoare II (1705-1785), is one such garden. (See Figure 4-46.) The first Henry Hoare, a banker in London, became wealthy financing new works for aristocratic garden builders. After he died, Henry II, at the age of nineteen, became head of the family bank. (Rogers, 2001, p. 245) From 1738 until 1741, like other



**Figure 4-46.** Plan of Stourhead by Henry Hoare II. (Drawing by author.)

young men of his day, he traveled in Italy. He returned to England when his mother died,

subsequently moving to Stourhead, which he inherited from her. After Hoare's wife died in 1743, he began his lifelong work of building and planting at Stourhead, creating the garden that is preserved virtually intact to this day. (Woodbridge, 1982, p. 13) His garden is "an elegaic landscape of arranged views, classical temples and monuments to British history" and is "a highly personal testimony to Henry Hoare's own imagination and learning." (Hunt, 1988, p. 31)

Like Villa Lante and other gardens before it, Stourhead is designed around a narrative based in writings from ancient Rome, Virgil's *Aeneid*. (Woodbridge, 1982) As a visitor traverses the counter clockwise circuit around the lake, the series of stations evoke Aeneas's journey from Troy to his founding of the Roman Empire. (Moore, Mitchell, & Turnbull; 1988) Rogers (2001) speculates that this odyssey might also have symbolized Hoare's establishment of his family seat at Stourhead after his journeys. Regardless, Hoare "clearly meant the landscape of Stourhead to be a dreamworld inhabited by the gods, goddesses, and heroes of antiquity." (p. 246)

Supporting  
Hoare's classical  
references to Aeneas's  
journey is what is  
generally thought to be  
his reproduction of a  
pastoral scene from  
Claude Lorrain's painting  
entitled *Aeneas on Delos*.  
(Woodbridge, 1982;



**Figure 4-47.** View of the Pantheon across the lake at Stourhead.  
(Photograph by Sara Katherine Williams.)

Rogers, 2001; Taschen, 1990) This view, the first set scene that a visitor sees after entering the garden, is of Hoare's miniaturized version of the Roman Pantheon as the focus across the lake, with the Palladian bridge in the foreground and the lake forming the middle ground, Figure 4-47. The *Aeneid* is thus immediately invoked by this first panoramic view. (Moore, Mitchell, & Turnbull; 1988)

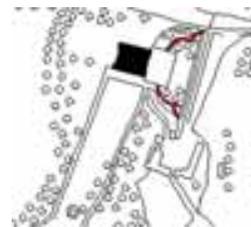
The area containing the pleasure garden circuit is in the lighter green that encircles most of the lake in Figure 4-46 and the lighter gray in Figure 4-48. The stations of the pilgrimage are shown in Figure 4-48, A-H. The Hermitage, located between the Pantheon and the Temple of Apollo at 4-46, I, is no longer standing. Other elements of interest are at 4-48, J-L, and include the villa, a statue of



**Figure 4-48.** Stourhead’s pilgrimage. A) Portique and Iron Cross. B) the Palladian bridge. C) Orangerie. D) Temple of Flora. E) King Alfred’s Tower. F) grotto. G) Pantheon. H) Temple of Apollo. I) Hermitage. J) villa. K) Apollo Belvedere statue on a mound. L) obelisk. (Drawing by author.)

Apollo Belvedere on a mound, and a stone obelisk set within a circular space. A Gothic cottage, located between the grotto and the Pantheon, is omitted as it was not turned into a feature until 1806. (Woodbridge, 1982, p. 50)

At first glance, the English landscape garden as portrayed at Stourhead does not seem to be fertile ground for the location of mandala elements, at least if the examination is confined to the overall garden plan. However, if one looks at the elements found within the garden, and the sight lines to the views around which the garden is designed, it tells a different story.



**Figure 4-49.** Stourhead circle segments in red. (Drawing by author.)

### Stourhead Inventory

The English landscape garden plan represents an idealized landscape in its serpentine paths, irregularly-shaped lakes with naturalized shoreline, and trees in clumps rather than straight lines that might infer a geometric figure. Except in areas left over from earlier formal gardens, such as the circle segments adjacent to the villa at Stourhead, Figure 4-49, there simply are no circles or squares in the design of the landscape itself. However, added architectural features are a different matter.

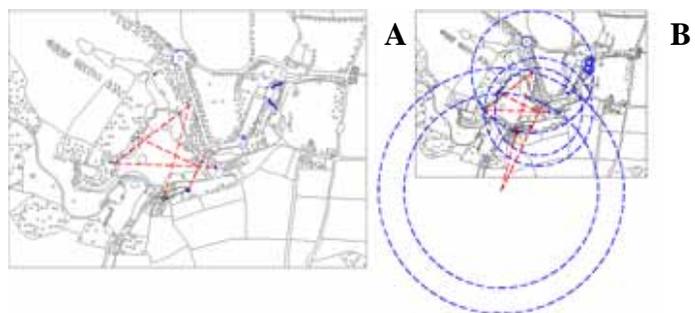
The outline of Stourhead is shown in Figure 4-50, A, with architectural features filled with



**Figure 4-50.** Outline of Stourhead's plan. **A)** Outline with architectural features in solid black. **B)** Coded circles and squares of architectural features, with sight lines of set views shown in dashed red lines. (Drawings by author.)

solid black. Figure 4-50, B, codes relevant components of these features, circles and squares, as in previous inventories. Complete and implied circles are blue; whole or partial squares are green. A triangular tower is coded cyan, the color used for quartering lines in previous inventories, because no quartering lines are obvious at this scale. Since set views are an important part of Hoare's design, as well as other early English landscape gardens, the sight lines for these are coded in dashed red lines. Sight lines are taken from a "General Plan of the Pleasure Garden at Stourton . . . by F. M. Piper 1779." (Woodbridge, 1982, p. 44) Coded elements are admittedly difficult to see in Figure 4-50, B, because the architectural features from which they are derived are quite small when compared to the overall plan. When isolated, as in the next three figures, they are easier to discern.

Circles, circle segments, and sight lines that imply circles are isolated in Figure 4-51, A. In Figure 4-51, B, partial circles are completed, and circles implied by using sight lines as radii are drawn. It is interesting that elements that appeared to be insignificant in the overall plan take on much more significance here. This is



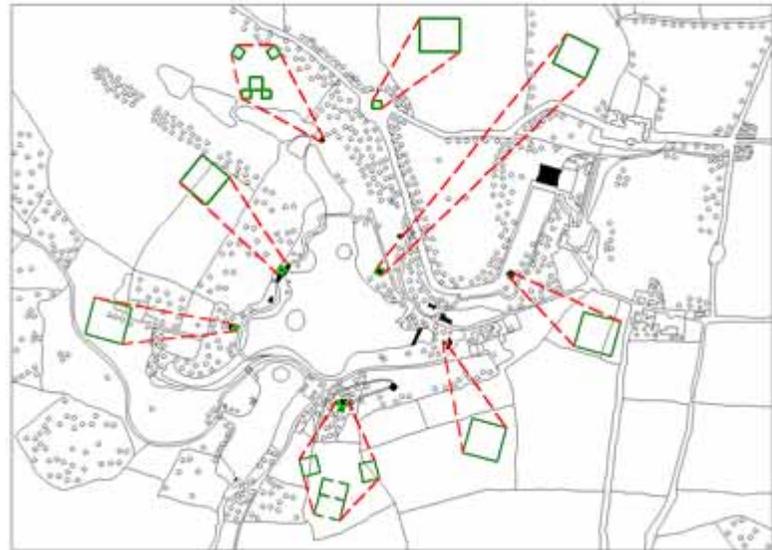
**Figure 4-51.** Stourhead circles. **A)** Sight lines and original complete and partial circles. **B)** Completed circles, including those implied by sight lines. (Drawings by author.)

particularly true when sight lines to the architectural follies are considered. Since English landscape

gardens are consciously designed to provide a series of “painterly” views from various points as the garden circuit is traversed, their inclusion is more than justified. If omitted, an important aspect to the analysis would be lost.

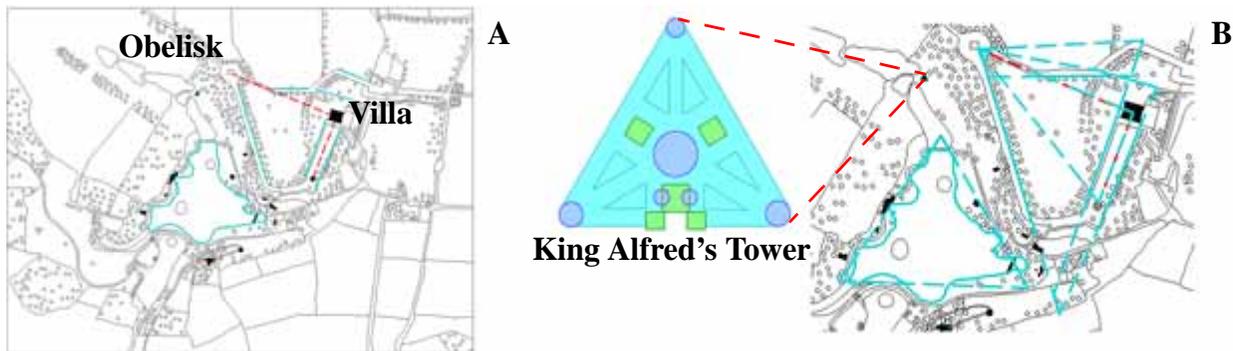
Figure 4-52 shows squares derived from architectural features that are part of the overall plan of Stourhead. These are discussed in more detail later in this section.

As noted earlier, there are no discernible quartering lines in Stourhead’s plan of the garden in its entirety. However, for the first time triangles appear as a separate



**Figure 4-52.** Stourhead squares. (Drawing by author.)

designed element rather than as part of another figure, such as the rotated squares or diamonds in the Vaux-le-Vicomte synthesis. Cyan is used for these triangles, as well as for quartering axes/lines. Both the main body of the lake, Figure 4-53, A, and Saint Alfred’s Tower, Figure 4-53, B, are

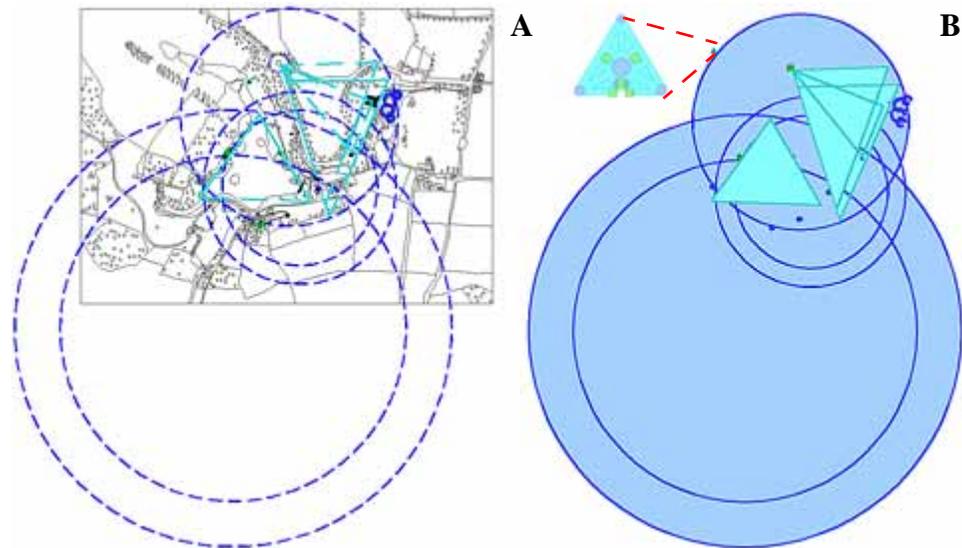


**Figure 4-53.** Triangles at Stourhead. **A)** Triangles implied and complete. **B)** Tower plan and partial/implied triangles completed. (Tower plan by author from plan in Woodbridge, 1982, p. 60.)

triangular in shape and represent a significant departure from the shape of designed elements in previous analyzed gardens. Triangles are also implied in the sight lines between the villa and the obelisk and the villa and the Apollo Belvedere statue, as well as the shape of the lawn adjacent to the villa. Triangles have specific psychological implications that will be discussed in the analysis

following this inventory. As indicated in Figure 4-53, B, the tower is located in the upper left of the garden on its outer circuit. (Woodbridge, 1982, p. 60) It was designed by Henry Flitcroft and “commemorates the peace with France, and the succession two years previously of George III, like Alfred ‘a truly British king’.” (Woodbridge, 1982, p. 60) A plan of the tower is in Figure 4-53, B. Although triangular in shape, it incorporates both circles and squares into its design.

The last step in the inventory is to overlay circles, squares, and triangles; as revealed in Figures 4-51, B, 4-52, and 4-53, B; into one synthesis figure, Figure 4-54, A. This is further refined into a final color-coded



**Figure 4-54.** Stourhead synthesis. **A)** Overlay of isolated elements. **B)** Overlay refined and color-filled. (Drawings by author.)

synthesis that reveals the underlying geometries of Stourhead’s design, Figure 4-54, B. The squares, found in the plans of the architectural features on the pleasure garden circuit, are very small in relation to the other elements in this synthesis and are discussed in more detail in the analysis section

### **Analysis of Stourhead**

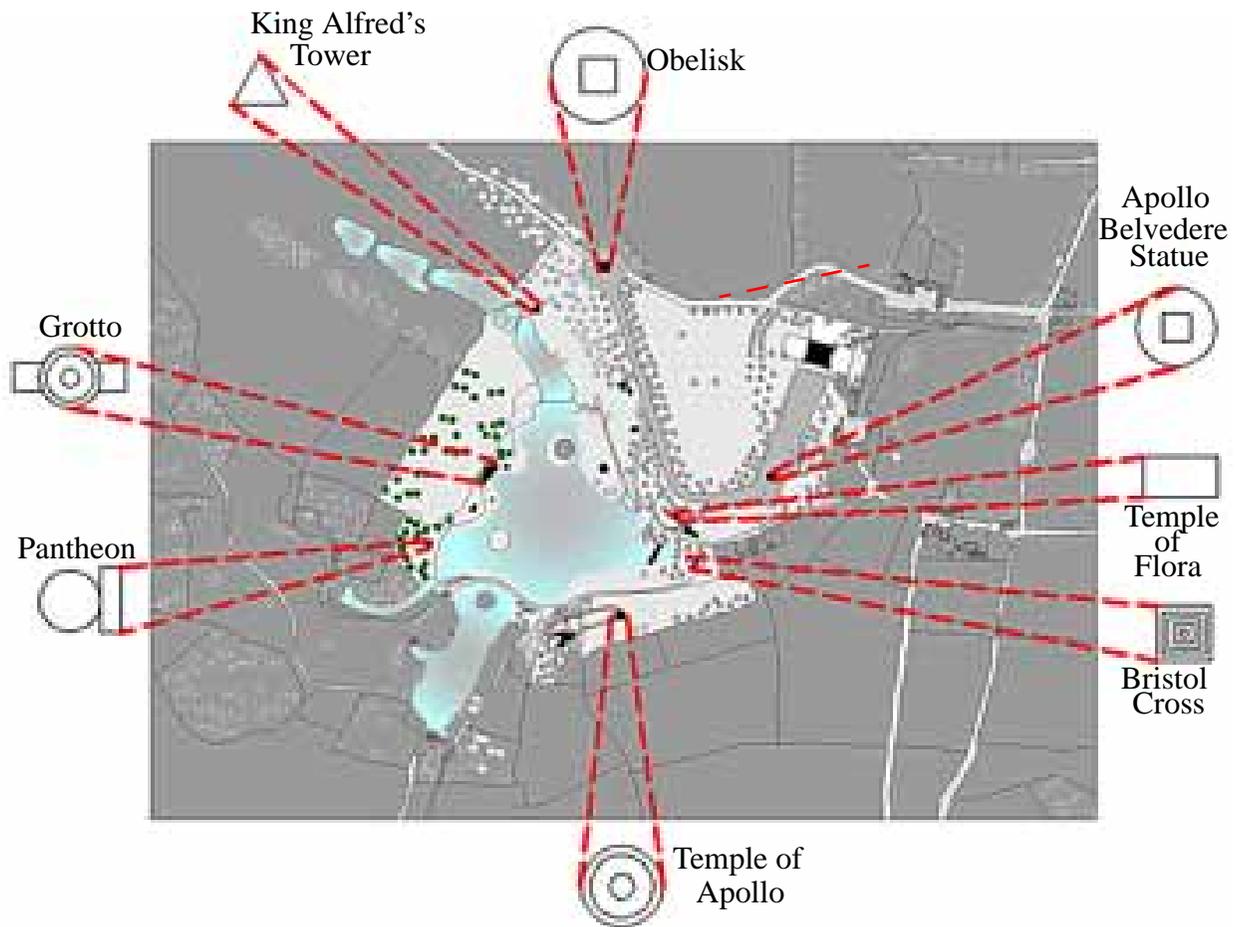
Stourhead is interesting not only because of its beauty but because its design is a dramatic counterpoint to Vaux-le-Vicomte’s design in the previous analysis. The landscape garden comes at a time when idealized nature is the “blueprint” for the design of large parks that surround the country estates of fashionable gentlemen. Formerly straight Baroque or Renaissance lines in the landscape are obliterated with meandering clumps of trees, and rivers or geometrically-shaped ponds become irregular lakes with naturalized shorelines. Serpentine lines epitomizes that which is the most beautiful and appear in wandering paths through the landscape, leading visitors to varied perspectives of sculptures and architectural features as the viewpoint changes. Geometry appears to be a vanished

phenomenon -- until a closer examination focuses on the architectural features and the sight lines to these features that are an important aspect of early English landscape gardens such as Stourhead. It is in these that indications of attitudes toward nature and culture are found during this period.

These architectural features are very different from those of the earlier French Baroque garden. For the French architecture is part of the design. Architectural features “in early English landscape gardens were isolated incidents, either distributed widely in the landscape . . . or marking stages in a circuit walk . . .” as at Stourhead, among others. (Woodbridge, 1982, p. 8) Such features at Stourhead generally carry symbolic meanings that contribute to the overall narrative of the garden.

### Psychological implications

Although no mandalas are found in the overall design of the English landscape garden at

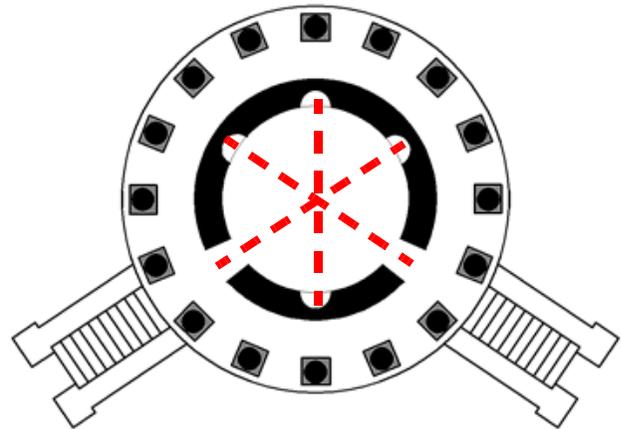


**Figure 4-55.** Map of Stourhead's pleasure garden with abstracted plans of added buildings and monuments. (Drawings by author.)

Stourhead, plans containing circles and squares can be inferred from buildings marked on the map in Figure 4-55, combined with available photographs of these buildings and monuments that Hoare

added to his landscape. As these features derive from ancient buildings, such as the Roman Pantheon or temples that dot the Tuscan countryside, it would be surprising if their plans did not, in fact, imply mandalas. At the time they were originally conceived, humankind was immersed in a vertically oriented holistic universe with nature as an honored participant in that same cosmos.

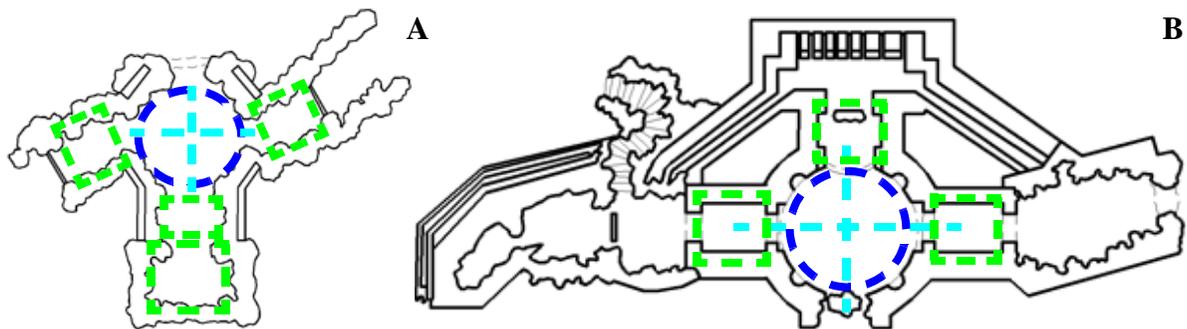
I do not have plans to verify this, but I did locate a plan for the Temple of Ancient Virtue at Stowe, designed by William Kent. It is from the same early years of the movement and is based on the Temple of the Sybil at Tivoli and perhaps also on another circular temple from Hadrian's garden. (Hunt, 1987, p. 20) As is seen in Figure 4-56, entrances and niches in the walls imply cross connections that in turn imply divisions even though they are not the more



**Figure 4-56.** Plan of Temple of Ancient Virtue at Stowe with cross connections drawn. (Drawing by author.)

stable quartering. I do not want to make too much of this detail as it relates to Stourhead, however. Suffice it to say that, because of their derivation, both Stourhead's Temple of Apollo and Temple of Flora, as well as the Pantheon, are mandala plans with some kind of divisions implied in their plan.

Plans are available for three other Stourhead features. King Alfred's Tower is discussed later in this section. Those for the Hermitage and the Grotto are shown in Figure 4-57 below. The

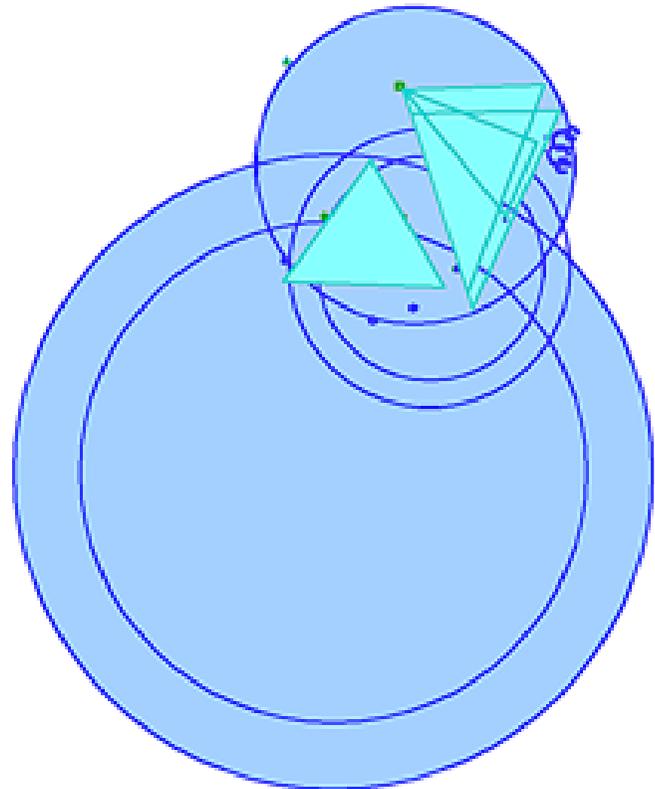


**Figure 4-57.** Plans of two of Stourhead's features. **A)** The Hermitage. **B)** The Grotto. (Drawings by author from a plans in Woodbridge, 1982, pp. 54 (A) & 48 (B).)

Hermitage was constructed from old trees and was dismantled in 1814. Woodbridge (1982) notes that it was similar to the Grotto. (p. 55) Circles, squares, and implied quartering lines are evident in both.

The Bristol Cross, Obelisk, and Apollo Belvedere monuments also appear to be mandalas in plan but with no dividing lines, as abstracted from their photographs in Figure 4-55.

The important point here is that whether such architectural works have mandala plans with implied divisions or not, they are embedded within the larger plan and totally enclosed within large circles generated by sight lines. This reflects the fact that current ideas are the active components here, rather than forms based in ancient ideas. The importance of current ideas is further supported by the fact that English garden architectural features are often miniaturized copies based on representations seen in a painting, as important for the way they appear from varied viewpoints and in their symbolism



**Figure 4-58.** Stourhead synthesis. (Drawing by author.)

as in the actual experience of their form. Thus it is the *idea* of such objects and what they represent rather than their actual form that is important. And this is exactly what the synthesis in Figure 4-58 shows, with its large circles enclosing both garden and villa area, as well as the designed triangles, one of which is implied by sight lines to and from the villa.

In fact, the entire English landscape garden, as put into place at Stourhead, can be said to be the result of ideas manifested in the landscape. Into the mix that generated this garden type are political ideas about justice and equality; ideas about nature as a friendly and equal partner; ideas about an elegant lifestyle with harmonious Palladian homes set into irregular landscapes; specific ideas on what constitutes beauty, such as untrimmed trees and shrubs and the serpentine line; ideas that painterly views can be reproduced in the landscape. All of these contribute to the paradigm shift

that resulted in the English School. The promise of change that the teetering mandalas of the Baroque seem to predict is fulfilled.

An important aspect alluded to among the influences listed above are lines of sight designed to produce views between the architectural features as the pleasure garden circuit is traversed. They play much the same role here as the paths in Villa Lante's park, at least in so far as serving as radii for circles and as indicators of the importance of ideas in their respective periods.

Stourhead's *visual* paths are connections between architectural features that represent ideal forms set into an ideal nature. In so far as the sight line

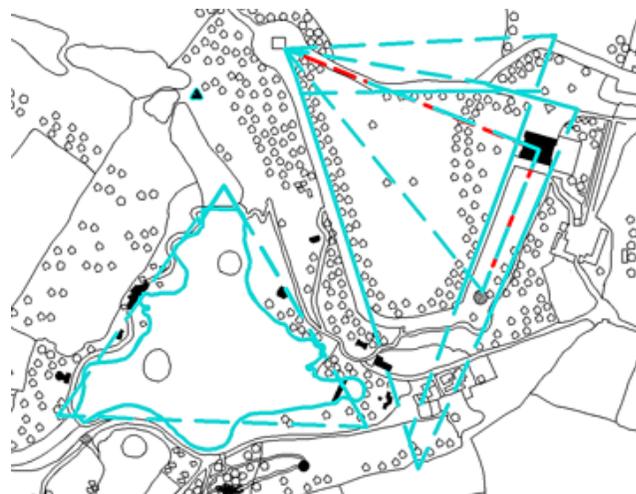
itself represents the re-creation of scenes that are not real -- that are composites cobbled together in paintings to further the idea of the artist -- they, too, are ideas. In other words the English landscape garden is composed of connections among representations of ideas, which is what is reflected in Figure 4-58's synthesis. In Figure 4-59 the visual paths/sight lines are picked out in red dashed lines.

The last element to be considered are the triangles designed into Stourhead's plan, Figure 4-60. The triangular shape is particularly interesting because of what it connotes psychologically. Jung (1959) said the following about the meaning of the triangle.

If one images the quaternity as a square divided into two halves by a diagonal, one gets two triangles whose apices point in opposite directions. One could therefore say metaphorically that if the wholeness symbolized by the quaternity is divided into equal halves, it produces two opposing triads. . . . In psychological language we should say



**Figure 4-59.** Visual paths at Stourhead. (Drawing by author is interpolated from a 1785 map of the grounds (Woodbridge, 1982, p. 15) and a 1779 map of the Pleasure Garden at Stourton by F. M. Piper (Woodbridge, 1982, p. 44).)



**Figure 4-60.** Designed triangular elements at Stourhead. (Drawing by author.)

that when the unconscious wholeness becomes manifest, i.e., leaves the unconscious and crosses over into the sphere of consciousness, one of the four remains behind. . . . There thus arises a triad, which as we know . . . constellates a corresponding triad in opposition to it -- in other words, a conflict ensues. (par. 426)

As an expression of a divided square, which represents attitudes toward the whole of physical nature, a triangular garden element must reflect the fact that some aspect of matter has been neglected. As discussed earlier, these gardens are about improved, *idealized* nature. What is neglected, then, is real nature -- whether it is uncontrolled growth in the landscape or inquiry into the physical sciences. The world of matter is subjugated during this period to the world of the arts. The conflict is thus between the *idea* of nature and the *reality* of nature in all of its aspects.

These gardens are undeniably beautiful. They are also undeniably designed and undeniably the culmination of attitudes, ideas, that come together during the first half of the eighteenth century to produce a paradigm shift in attitudes toward nature. Just as diamond-shaped Baroque mandalas presage a major shift in attitudes, the triangles of the English school are not only a statement of present attitudes but also an omen of the future. Jung put it this way:

. . . [W]hereas fourness is a symbol of wholeness, threeness is not. The latter . . . denotes polarity, since one triad always presupposes another, just as high presupposes low, lightness darkness, good evil. In terms of energy, polarity means a potential, and wherever a potential exists there is the possibility of a current, a flow of events, for the tension of opposites strives for balance. (par. 426)

The flow of events inevitably lead to the next evolution of human attitudes toward nature and culture as expressed during the Modernist period.

### **A Modernist Garden**

An architecture professor once told me that without Piet Mondrian, there would have been no modern architecture. Without modern architecture, of course, there would have been no modernist landscape architecture. Certainly, each preceded and validated the other. Treib (1993) states it this way: “. . . [I]deas in architecture follow about 15 years after those in art, while those in landscape architecture are 15 years further behind.” (p. ix)

These changes, apparently precipitated by the advent of modern art, is ultimately traced back to the psychological shift from a vertical orientation to a horizontal one that occurs with the Renaissance. Aniela Jaffe (1964), a Jungian analyst with Jung at the C. G. Jung Institute in Zurich,

corroborates this in a seminal treatise entitled *Symbolism in the Visual Arts*. In discussing the polarity between the two extremes of modern art, great realism and great abstraction, she writes the following:

From the psychological standpoint, the two gestures toward the naked object (matter) and the naked non-object (spirit) point to a collective psychic rift that created its symbolic expression in the years before the catastrophe of the First World War. This rift had first appeared in the Renaissance, when it became manifest as a conflict between knowledge and faith. Meanwhile, civilization was removing man further and further from his instinctual foundation, so that a gulf opened between nature and mind between the unconscious and consciousness. These opposites characterize the psychic situation that is seeking expression in modern art. (p. 253)

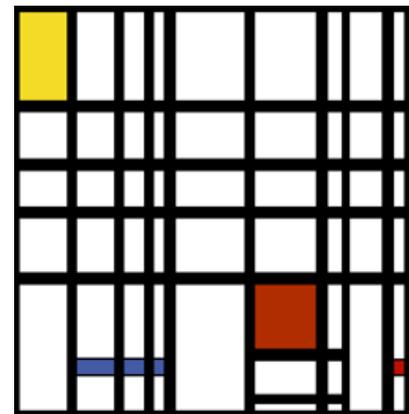
As beautiful as the English landscape garden at Stourhead is, its triangular tower is a symbolic signpost on this road to the complete disconnect between nature and culture that modern art, architecture, and the earliest days of modernist landscape architecture express. The Industrial Revolution completed the removal of humans from the instinctual base referred to by Jaffe and is another signpost along this roadway. With the mass migration of rural inhabitants into the cities and the crowded living conditions found there, many were no longer exposed to the seasonal cycle of growth and death and rebirth of those close to the land. City life is not linked to the changing seasons, and city populations are to a great extent insulated from nature's impacts.

Although modernist landscape architecture in the United States as reflected in a garden by Garrett Eckbo is the subject of this study, a discussion of the symbolism of modern art and the beginnings of modernist landscape architecture in France is helpful in illuminating Eckbo's design.

### **The Modernist Culture**

As discussed above Jaffe (1964) sees modern art as revealing in visual language the psychological divide that occurred in humanity's attitude toward nature and culture after the Industrial Revolution and with the scientific and technological advances of the twentieth century. With this split,

humans are no longer immersed in the physical world but apart from it, in control of it, able to manipulate it for their benefit alone. Arnheim (1954) concurs with this analysis. Remoteness from



**Figure 4-61.** *Composition with Red, Yellow, and Blue* (c. 1937-42) by Piet Mondrian. (Drawing by author)

an object leads to a geometric, stylized form, illustrated in a painting by Mondrian (1872-1944) entitled *Composition with Red, Yellow, and Blue*, Figure 4-61.

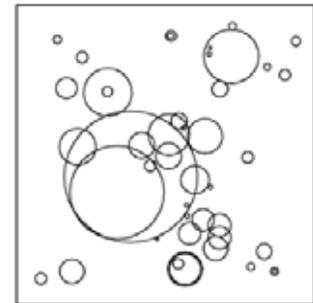
. . . [T]he careful leveling of any personal trace in the texture and line of Mondrian's work is related to the absence of curves and obliquities in his patterns and the withdrawal from the subject matter of life and nature in his themes. (p. 352)

The abstraction of Mondrian's rectilinear compositions, composed of regular geometric shapes, then, results when humanity is no longer immersed in the world of earthbound matter. The underlying cause of such feelings of remoteness is a psychological withdrawal, the result of the split between nature and culture after the Industrial Revolution. (pp. 101-106) Arnheim (1954) continues:

The very essence of art is the unity of idea and material realization. . . . Surely, modern art is not materialistic, but some of its representatives are affected, nevertheless, by the fatal split between idea and concrete existence. (p. 107)

To paraphrase Arnheim's words, every element of a work of art is necessary for the one purpose of pointing out the theme that embodies the nature of existence for the artist. Because of this, symbolism is found even in works that, at first sight, seem to be little more than arrangements of fairly neutral objects. (Arnheim, 1954, pp. 370-376)

The collection of loosely scattered circles in, for example, Kandinsky's (1866-1944) *A Few Circles*, diagrammed in Figure 4-62, is, according to Jaffe (1964), symbolic of the importance of the artist's (and the



**Figure 4-62.** Diagram of Wassily Kandinsky's *A Few Circles*. (Drawing by author.)

modernist culture's) created psychic world, as opposed to the physical concrete world of the body. The portrayal of floating circles, combined with the absence of square or rectangular forms, is thus an unconscious projection revealing the artist's attitude toward a remote, non-relevant nature and the all important exciting world of the creative mind.

Arnheim's (1977) thoughts on art are summarized in the following:

"Abstract" art does in its own way what art has always done. . . . It is not 'pure form,' because even the simplest line expresses visible meaning and is therefore symbolic. It does not offer intellectual abstractions, because there is nothing more concrete than color, shape, and motion. It does not limit itself to the inner life of man, or to the unconscious, because for art the distinctions between the outer and the inner world and the conscious and the unconscious mind are artificial. The human mind receives, shapes, and interprets its image of the outer world with all its conscious and unconscious powers . . . . There is no way of presenting the one without the other. (p. 376)

In other words, paintings that portray simple circles or squares carry the same symbolic weight as the complex and detailed paintings that characterize other eras. The abstract compositions of modern art, many featuring simple geometric shapes, influenced the forms of architecture and then of landscape architecture because modern art expressed the psychological attitudes of its time and place, its culture. The built environment at its best is a creative interplay of science and art. It is therefore part of a natural process for ideas to first make their visual appearance in the work of artists who are responding to unconscious stirrings in the collective culture of which they are a part. These ideas eventually make their way into the artistic expressions of landscape architects.

The ideas reflected in modern art were first manifested in landscape architecture during the early years of the twentieth century in France. Dorothee Imbert (1993), author and noted authority on modernism in landscape design, writes that the French garden of this time “is one of the most significant periods in the history of twentieth-century garden design.” (p. 92) The Exposition des Arts Decoratifs et Industriels Modernes held in Paris in 1925 “placed the [modernist] gardens within the stylistic, cultural, and social currents of the interwar years.” (Imbert, 1993, p. 93) For the first time in one place, the sharp departure from past garden styles that is represented by modernist landscape architecture in France was displayed. It clearly represents the fact that nature is no longer tied to culture. In fact, nature is no longer tied to the garden.

This is illustrated in two gardens that Imbert calls “extremely bold and innovative submissions . . . that would substantially expand the limits of French garden design in the succeeding decades.” (p. 93) Both of these explore the use of new technologies and materials, such as concrete and electricity. Among other things, they “challenged . . . the preconceived notion of nature and garden as a symbiotic system.” (Imbert, 1993, p. 93)

The first of these is the Garden for Modern Living by architect Robert Mallet-Stevens and sculptors Jan and Joel Martel. Their design is a “pair of sunken lawns with four perfectly identical ‘mature’ trees whose foliage consisted entirely of articulated concrete planes.” (Imbert, 1993, p. 95) They were supposedly searching for perfection through construction rather than horticulture. (p. 95) Since nature is a constantly changing state, and perfection, by definition, should remain in its perfect state forever -- a concept prevalent during the Renaissance, also -- this is a logical approach. And

logic is a manifestation of the mind and not the body just as concrete trees are a manifestation of culture and not nature; thus further reflecting the modernist chasm between culture and nature

The second garden is by Gabriel Guevrekian entitled Garden of Water and Light. Triangular in shape, it is designed to be seen but not entered and is “an enlarged icon painted with grass, flowers, and glass.” (Imbert, 1993, p. 95) Marc Treib (1993) calls this garden the most influential design at the Art Exposition of 1925 because it “suggested true formal development rather than the mere exploitation of a geometric motif.” (p. 39) The same geometries in this garden are explored by Guevrekian two years later in a garden for the Villa Noailles in Hyeres, France, Figure 4-63. As in the Garden of Water and Light, this garden also

“showcased inert rather than living materials, upsetting the traditional balance that had almost always favored vegetation.” (Treib, 1993, p. 39)

The Villa Noailles garden is an elongated isosceles triangle, in which Guevrekian wanted “close enclosure and attention directed to artifice yet without confinement.” (Steele, 1993, p. 112) The triangular shape of the garden is stretched in order to allow a glimpse of the Mediterranean Sea from within the garden walls, thus achieving the close enclosure without confinement. Artifice was evidence in the “chromatic and vegetal palette completely alien to the surrounding landscape. (Imbert, 1993, p. 131) Visualize the following: White walls, glazed tiles, mirrorlike water basin, glossy-leaved orange trees, gilded bronze statue (Lipchitz’ sculpture, *Joie de Vivre*), yellow mosaics against blue, red, gray, and mauve mosaics, brightly-hued tulips. Although it is not known for sure, the ground cover in the two-tiered triangular beds on the sides may have been in differing greens also. This scheme contrasted with both of the terraces on each side, one an almost classical lawn terrace with cypress and orange trees, the other planted with pines and olive trees, and with the rough tan surface of the villa and the gray-green hills of the surrounding countryside. (Imbert, 1993)



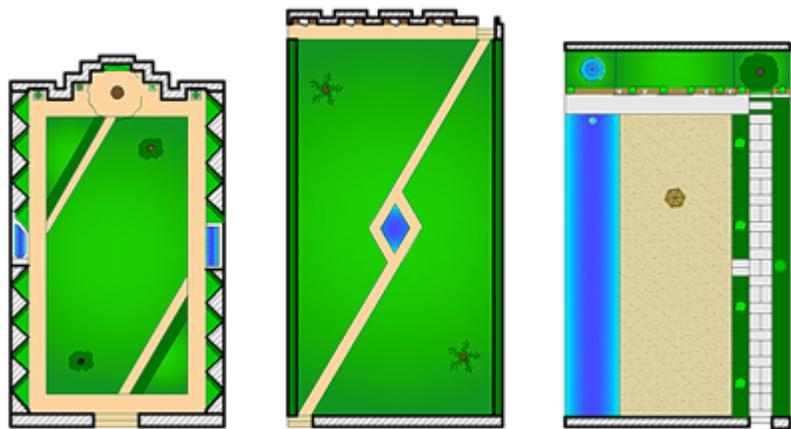
**Figure 4-63.** Triangular garden at the Villa Noailles by Gabriel Guevrekian. (Constructed in AutoCAD by author.)

Despite the bright colors of mosaics and plantings, the composition remains rigidly static with its compressed planes of plantings. Such control does not allow for seasonal cycles of growth and dormancy, and without change rigidity eventually leads to decay and death. In fact, by 1934, Guevrekian’s garden had been replanted in the “perennial monotony of aloe.” (Imbert, 1993, p. 136)

The garden at the Villa Noailles is meant for contemplation and engagement of the mind, partly due to size, partly due to non-welcoming geometries and lack of a clear path structure. (Imbert, 1993, p. 136) The contemplation thus occurs from without its boundaries, not from within them. Nature itself is set within these strict boundaries, creating a “permanent-instant garden.” (Imbert, 1993, p. 136) The design is the physical dis-embodiment of intellectual power and ingenuity, power focused solely on the actualization of the presiding idea regardless of any messy inconveniences that might be imposed by a dynamic physical reality. This is a garden of and for the mind only.

The use of the triangle as the overall form for the garden reflects the obvious conflict between the abstract world of ideas and the organic, uncontrolled chaos of physical growth and decay. Also supporting this is the fact that nothing in Guevrekian’s design relates to the natural environment or to the immediate context of villa and surrounding countryside. It is a world unto itself, dedicated to human control over nature, and taking as its inspiration the rarefied air of an intellect isolated from its body. As Imbert (1993) notes, it is the personification of artifice. (p. 135) The early Modernist culture’s separation of nature and culture is visually manifested.

Another influential garden designer during this time in France was Paul Vera. Fletcher Steele (1993) in a reprint of a 1930 article published in *Landscape Architecture* writes of Vera as “another of the earlier garden pioneers.” (p. 110) Vera published two books entitled *Le*



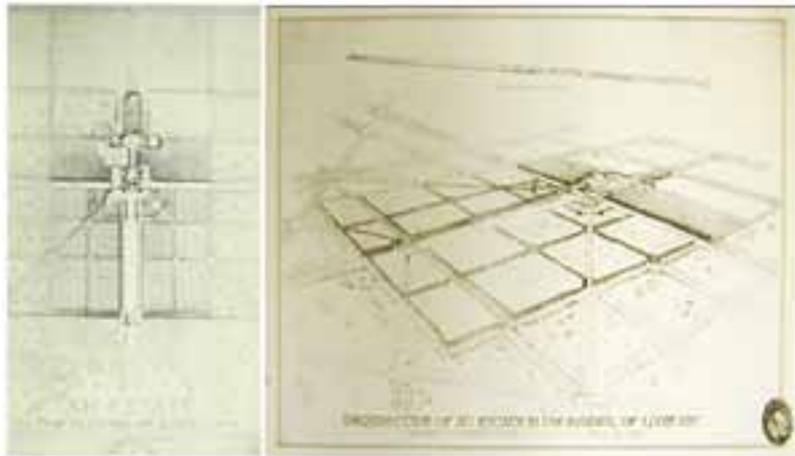
**Figure 4-64.** Three plans for an urban garden by Paul Vera. (Drawings by author.)

*Nouveau Jardin* and *Les Jardins*. The first was before the first world war, the second in 1919. Three

of Vera's schemes are variations on designs for an urban garden, Figure 4-64. These are abstract and controlled compositions, though even sparser than Guevrekian's garden. The triangle is a prominent element in the first design and its significance psychologically has been discussed above and in the English garden's analysis.

The instability of teetering mandalas is addressed for the first time in Vaux-le-Vicomte's analysis. In Vera's second design, however, the rotated square, a diamond shape, is overtly part of the composition, explicit now rather than implied. Arnheim (1954) concurs that by balancing on an angle rather than on a stable base it is inherently unstable. In his thinking a diamond shape is therefore more dynamic as well as perceptually less simple. (p. 342) If Arnheim's conclusions are applied to modernist landscape architecture, the use of a diamond shape in these gardens would seem to indicate that they are more dynamic and perceptually more complex. In many cases, these suppositions are probably true. However, in the case of Vera's second plan, the diamond's rotation is visually fixed into place by diagonal paths. There is no implication of movement here because the paths effectively tie the diamond shape into its position.

One thing that these three garden plans have in common is the abstract quality of their designs. This is a characteristic that continued when modernist ideas crossed the Atlantic and made their way onto the shores of America although, as expected in a very different culture, this abstraction is manifested



**Figure 4-65.** 1934 student project by Garrett Eckbo, University at California at Berkeley Design Archives. (Photographs by author.)

differently. It took an extended period of time for the transfer of ideas from Europe to America to take place, however. During the 1920s when the new French garden was thriving overseas, American universities were still teaching landscape architecture using Beaux Art methodology influenced by classical art and architecture.

In fact, in 1934 while Garrett Eckbo was a landscape architecture student at the University of California at Berkeley one of his projects is to design An Estate in the Manner of Louis XIV, Figure 4-65. It is a symmetrical design that is in no way related to the gardens that had been in Europe for over a decade. In America the transition to modernism occurred very slowly.

The writings of Canadian-born landscape architect Christopher Tunnard, professor in city planning at Harvard and then Yale, and landscape designer and critic Fletcher Steele were influential in this change. (Treib, 1993, pp. 36-40; Rogers, 2001, p. 442) Tunnard's 1938 book, *Gardens in the Modern Landscape*, was a "principal manifesto" for modern landscape architecture at the time. (Treib,

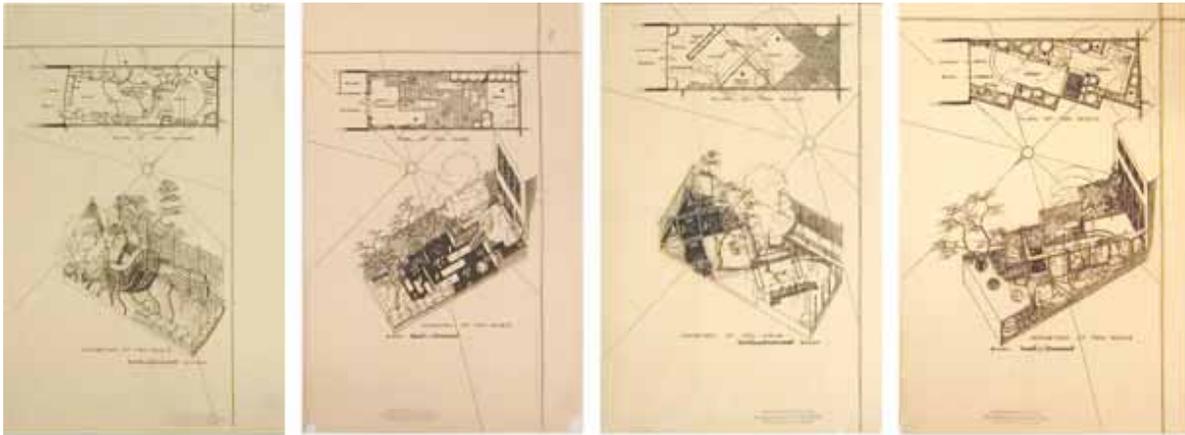


**Figure 4-66.** Thomas Church's plan for the Donnell garden, University of California at Berkeley Design Archives. (Photograph by author.)

1993, p. 36) Steele travelled widely and wrote extensively on what he saw, including the new French gardens and the direction that American landscape architecture should take. Although his design work is generally considered transitional rather than modernist, his "articles and manner influenced a trio of students completing their studies at Harvard University at the end of the 1930s: James Rose, Dan Kiley, and Garrett Eckbo." (p. 40) The work of these three and that of Thomas Church, Figure 4-66, established the modernist aesthetic in landscape architecture in the United States. (Treib, 1993, p. viii)

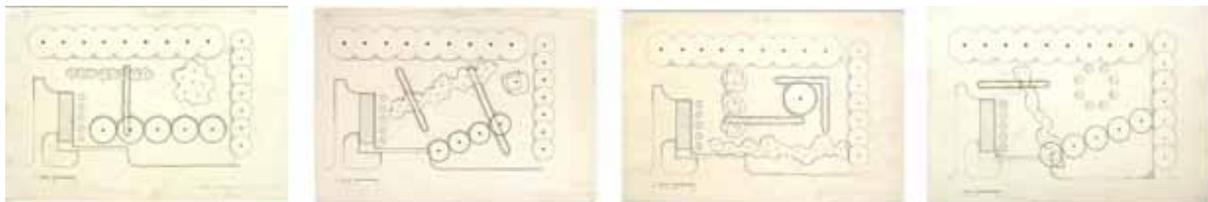
While at Harvard Eckbo is exposed to "a heady mixture of jazz, film, fashion, industrial design, New Deal social progressiveness, the recently arrived automobile culture, and the growing acceptance of European modern art and architecture in America." (Rogers, 2001, p. 451) The first real indication of Eckbo's design direction was his design of a block of eighteen equally-sized

townhouse lots in which he explored both curvilinearity and angularity. This study is conducted wholly on his own time, not a school assignment. Figure 4-67 shows four of these plans. According to Eckbo, they were an opportunity to focus on “varieties of physical forms and arrangements.” It was a “study of design possibilities -- a study of physical form, based on the idea that the content would develop from use over time.” (Eckbo, 1993, p. 208-209) These “Small Gardens in the City” were published in September 1938 in *Pencil Points* magazine and led to a similar thesis project that studied designs for half-acre plus suburban scale lots. (Eckbo, 1993, p. 208-209)



**Figure 4-67.** Four of eighteen designs from Garrett Eckbo’s “Small Gardens in the City” published in September 1938 in *Pencil Points* magazine. University of California at Berkeley design archives. (Photographs by author.)

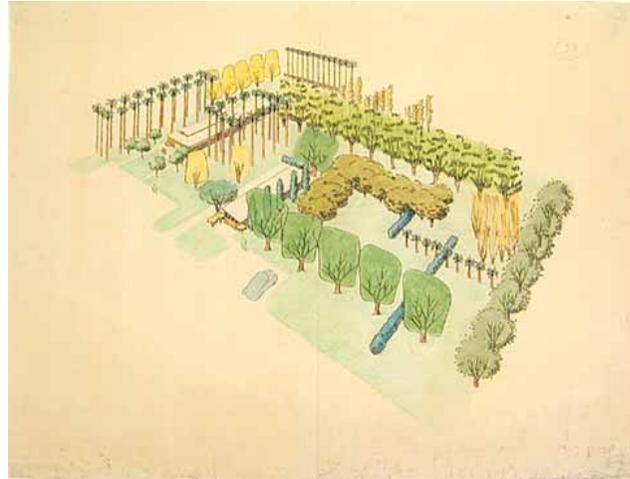
Eckbo seems to have been fascinated by the different permutations that design can take. As a young professional he worked for the Farm Security Administration, one of the few American landscape architects who put into practice the social ideals of modernism. He was with the FSA for more than four years and designed over fifty landscape plans for camps intended to house the families of migrant and permanent agricultural workers. (Rogers, 2001, p. 452) While there he did a series of twelve studies similar to those he undertook at Harvard. This time it was an investigation into the use of tree massing to create spatial volumes. Figure 4-68 contains four of these plans.



**Figure 4-68.** Four of Eckbo’s twelve FSA plan explorations, University of California at Berkeley design archives. (Photographs by author.)

These explorations informed his implemented designs for the FSA. One of these, Figure 4-69, is a park for the Weslaco, Texas, community building and gatehouse/garage. Notice the similarity, on a larger scale, of this to the studies in Figure 4-68.

In 1940 Eckbo founded a firm in San Francisco with brother-in-law, Edward Williams. In 1946 he moved to Los Angeles. It was during this period, in 1948, that he designed the Goldstone garden, selected for analysis in this study. From 1937 to 1993 Eckbo designed close to a thousand gardens. (Eckbo, 1993, p. 210) The firm that he

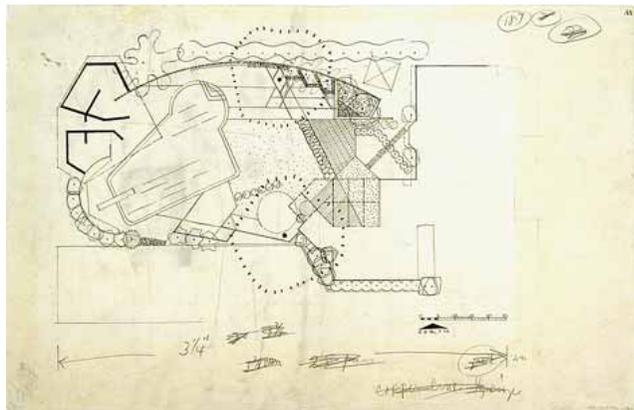


**Figure 4-69.** FSA design by Eckbo, University of California at Berkeley design archives. (Photograph by author.)

founded with his brother-in-law went through several incarnations, eventually becoming the firm known today as EDAW. Eckbo was chair of the Department of Landscape Architecture at the University of California at Berkeley from 1963-1969.

Throughout his career Eckbo followed a personal design aesthetic that also exemplifies the six design axioms that Treib (1993) finds in American modernist gardens, summarized below.

- A denial of historical styles. Instead, landscape expression derives from a rational approach to the conditions created by industrial society, the site, and the program.
- A concern for space rather than pattern, deriving a model from contemporary architecture.
- Landscapes are for people.
- The destruction of the axis.
- Plants are used for their individual qualities as botanical entities and sculpture.

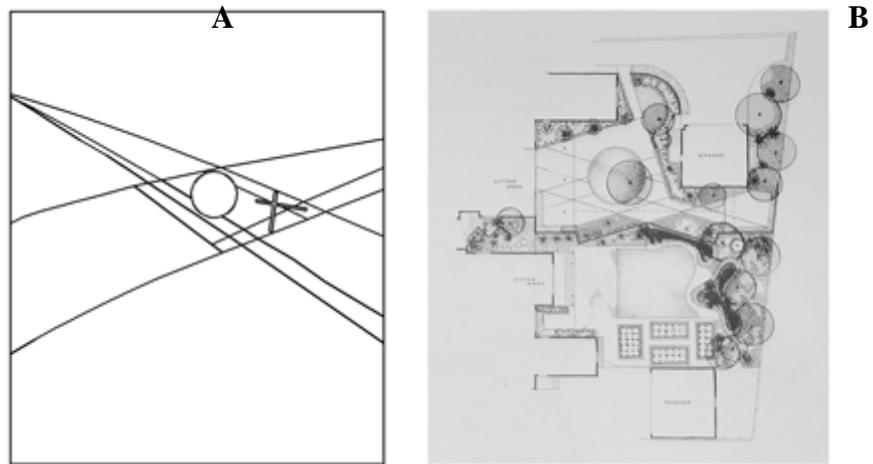


**Figure 4-70.** Goldstone garden by Garrett Eckbo, 1948. Environmental design archives of the University of California at Berkeley. (Photograph by author.)

- Integration of house and garden, not ‘house-and-then-a-garden.’ (pp. 53-59)

Eckbo’s Goldstone garden, selected for analysis in this study, follows these axioms. His original drawing for this design, on yellow trace paper with scribbled notes intact, is shown in Figure 4-70. It clearly does not follow a design style from the past; shapes and objects create and frame the central volume of space; it is designed for human activities such as swimming; it is areal rather than axial; plants create sculptured diagonal lines in the landscape and help to further contain spatial volumes as well as negate any implied axis; house and garden spaces interlock as indoor/outdoor living rooms are integrated (lower right of the plan).

If the Goldstone garden is compared to early French modernist gardens, such as Guevrekian’s triangular constructions or Paul Vera’s urban garden plans, it is obvious that a transformation occurred when these ideas reached our shores. Both Church’s Donnell garden, Figure 4-65,



**Figure 4-71.** Modern art and Garrett Eckbo. **A)** Diagram of *AXL II*, Laszlo Moholy-Nagy, 1927. **B)** *Project for Two Neighbors*, Eckbo, mid-1950s, University of California at Berkeley design archives. (Drawing and photograph by author.)

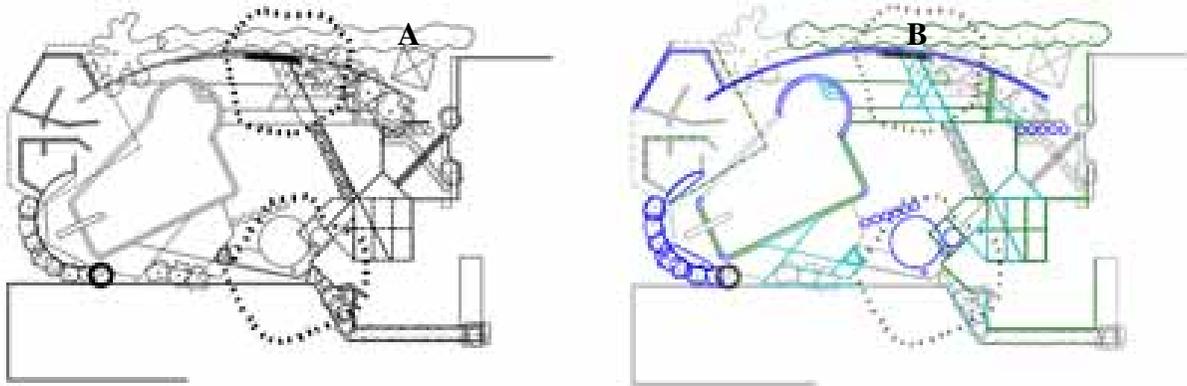
and Eckbo’s Goldstone garden show none of the rigidity or symmetrical qualities that many of the early French gardens do. They are modernist in their abstraction but have more in common with the abstract paintings of modern artists such as Kandinsky and Laszlo Moholy-Nagy. Those who knew Eckbo corroborate the fact that his designs were influenced by modern art. (Treib, 1993) See Figure 4-71 for an example.

An inventory of the Goldstone garden, in preparation for its analysis, follows.

### **Goldstone Inventory**

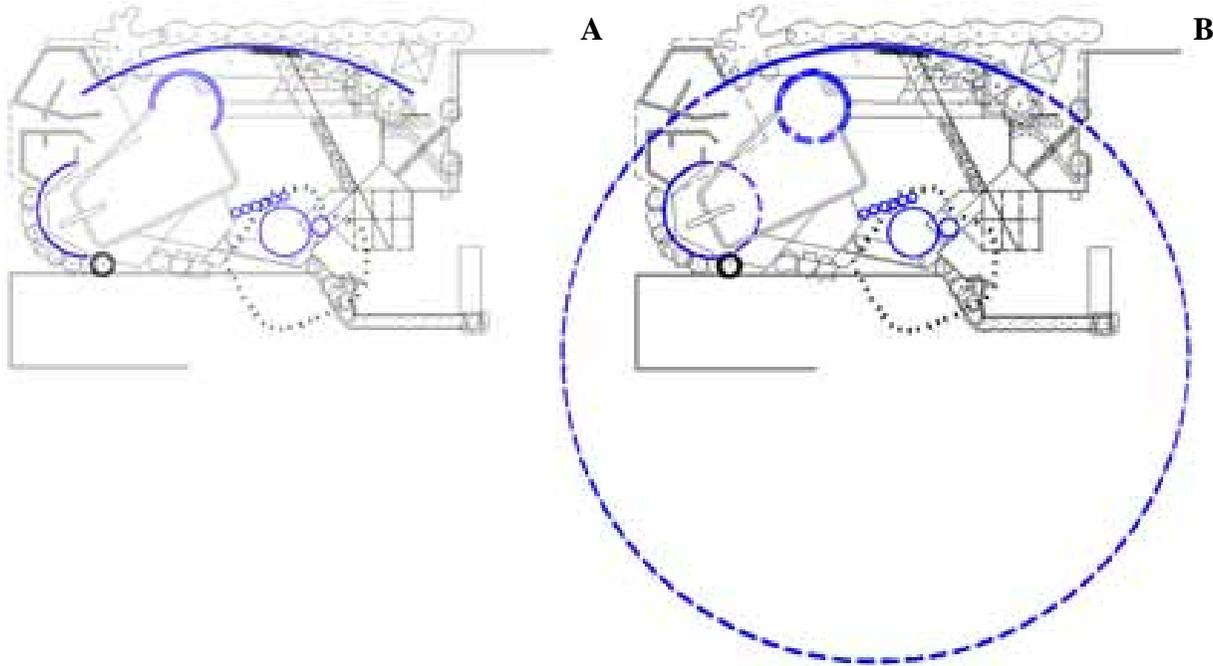
Figure 4-72 shows the Goldstone plan. Figure 4-72, B, is color-coded according to the system established for this study. There are many elements that are implied or partial figures or that at first

glance do not appear to be either circular or rectilinear. In fact, diagonals and triangular elements are major components in this design. Attitudes that became overt and actualized in the English garden continue into the Modernist.



**Figure 4-72.** Line drawings of Goldstone garden. **A)** Line drawing of plan. **B)** Coded outline. (Drawings by author.)

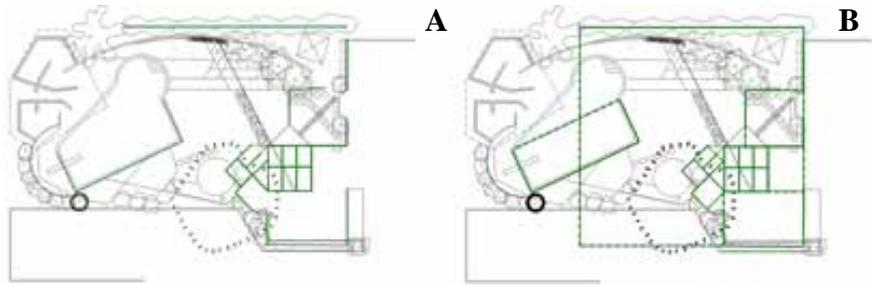
Complete and incomplete circles are isolated in Figure 4-73, A. In B) of the same figure



**Figure 4-73.** Isolated circles in the Goldstone garden. **A)** Partial and complete circles. **B)** Incomplete circles completed. (Drawings by author.)

partial or implied circular shapes are finished with a dashed linetype. The largest circle is created by the back wall that in plan is a segment of a circle. The number and size of circles reflect that the ideas behind Eckbo's designs are an important underlying component to his work.

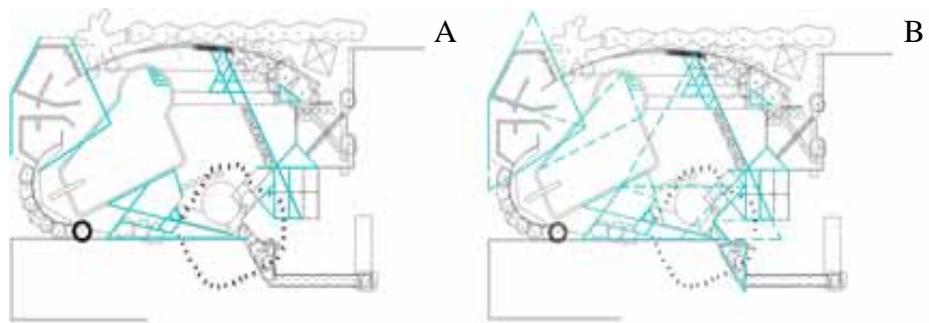
Partial and implied squares are isolated and diagrammed in Figure 4-74, A, and completed in Figure 4-74, B. At this point it appears that square elements may be large enough in size



**Figure 4-74.** Isolated squares in the Goldstone garden. **A)** Rectilinear elements. **B)** Partial and implied squares completed. (Drawings by author.)

and number to indicate that the role of nature is more than minimal in Eckbo's thinking.

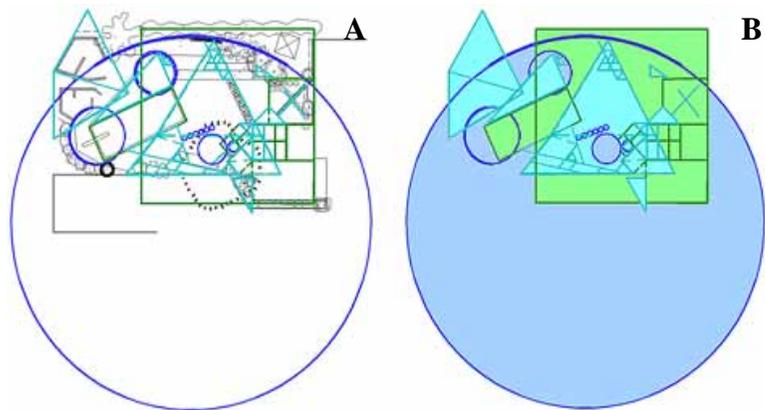
For the second time in an inventory, triangular shapes appear. They are not only numerous here, but as at Stourhead there is a large central



**Figure 4-75.** Isolated lines that create triangles. **A)** Whole and partial triangles **B)** All triangles completed. (Drawings by author.)

triangle that will rival at least some circles and squares in size. Figure 4-75, A and B, contain two drawings showing, first, partial and complete triangular shapes and, second, all triangles completed.

The synthesis of all completed elements is in Figure 4-76. In A) of this figure all completed circles, squares, and triangles from 4-73, B; 4-74, B; and 4-75, B, are combined to produce a single figure. This synthesis is filled with coded color in Figure 4-76, B, in order to make it easier to

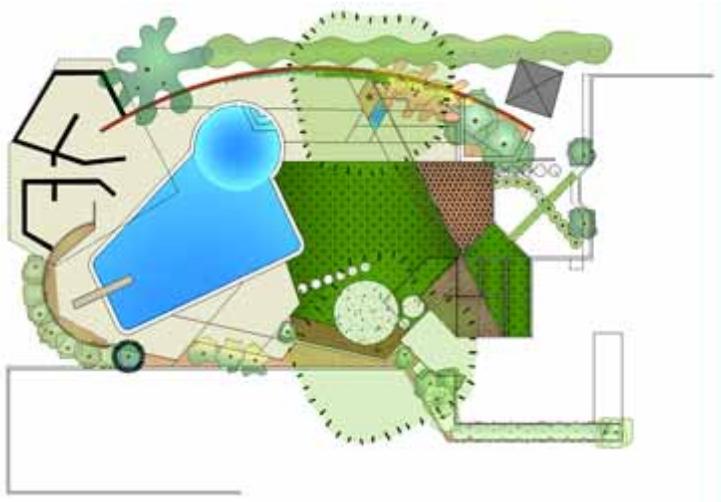


**Figure 4-76.** Synthesis of completed elements. **A)** Overlaid circles, squares, and quartering lines. **B)** Refined and color-filled synthesis. (Drawings by author.)

perceive how the components interact with each other. This final figure is the base for a psychological analysis.

## Analysis of the Goldstone Garden

According to Reuben Rainey (1993), associate professor of landscape architecture at the University of Virginia, Eckbo grounds his work in four principles of design: “. . . the primacy of space, truth to materials, the fulfillment of human needs, and climatic regionalism . . . .” (p. 201) These principles immediately set him apart from the artificiality of



**Figure 4-77.** Goldstone garden by Garrett Eckbo. (Drawing by author.)

gardens designed only for intellectual contemplation, as with Guevrekian’s two triangular gardens. They also imply that Eckbo’s gardens are of the body *and* the mind.

- Volumetric space may be actualized in physical terms but it is perceived by the mind’s eye;
- Materials are physical but being true to them is an idea;
- Human needs may be concrete but they may also be of the heart and the mind;
- Climate results from nature but regionalism results from an idea, a value judgment.

The Goldstone garden, Figure 4-77, represents Eckbo’s very specific and personal design aesthetic. Its language is modernist, but it is an American modernism that suggests a very different type of psychology than that of the early French modernist garden. Since European culture is very different from American culture, this is not a shock. The transformation in design language is a direct result of the “twist” that immersion within a different culture creates.

### Psychological implications

Eckbo’s design for the Goldstone garden is a rich interplay of diagonal lines and angles in counterpoint to the strong geometry created by the pool’s right angles combined with a circular shape. It is a study in contrasts that also displays an eclectic, avant-garde inclusionism. Abstract geometries are softened because they are physically implemented with various plant materials. Incomplete lines and curves created by the edges and shapes of real objects lead mind and eye into other regions, both

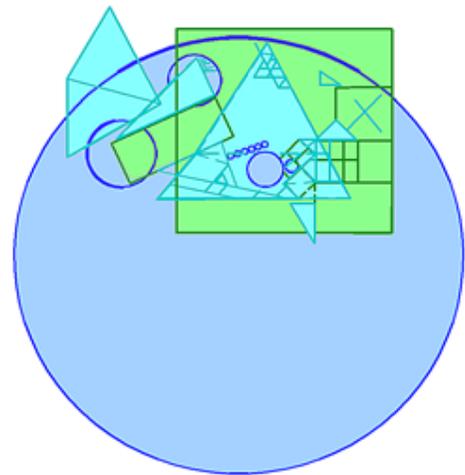
abstracted and real. Eckbo's design thus embodies a cooperation between nature and culture, between the organic and the abstract. This is supported by squares that are centrally and prominently located, Figure 4-78. Although the largest square is not as large as the largest circle the fact that it extends beyond the circle's boundaries reflects the important role that nature plays in the designer's thinking.

Nature is also highly organized here, a stable component that makes its own contribution to the overall aesthetic. Note the stability of the largest square and the number of stable squares within its borders, indicating that Eckbo's attitude toward the significance of the natural world is set by the time this design occurred. Several circles within the square's borders testify to the importance of ideas associated with nature for Eckbo. Eckbo (1993)

has this to say about the design process:

Design is the creation of environments for life, not styles for magazines and coffee table books. Design is solving problems for land, water, vegetation, animal life, and people, rather than for the last alone." (p. 218)

New, more involved attitudes toward nature are given credence in Eckbo's words and in his design for the Goldstone garden, but the huge circle that surrounds most of the other elements is evidence of its intellectual base. Eckbo is, above all, a designer with very strong ideas on what design is. His ideas happen to include nature as a crucial factor in his design choices, but it is design that excites him. In response to a question about his work, Eckbo once responded that he doesn't sit around thinking about the great job he did because the next project is always going to be the best thing he's ever done. (Treib & Imbert, 1997) Thus it is design and the problem-solving necessitated by the exigencies of each site that kept him looking forward to the next -- and the next -- project. Design is a thinking process; it begins with the mind. Eckbo's *conscious* world is not an intellectualized nature and culture separated and conflicted from real nature encountered on a real site. It is not a serene refuge from the harsh realities of the real world. Consciously, Eckbo is



**Figure 4-78.** Synthesis of overlaid circles, squares, and triangles from the Goldstone garden's inventory. (Drawing by author.)

engaged in the natural world as it is. This hints at a new relationship to come between humanity's ideas and the world in which all life must exist.

Whatever attitudes Eckbo's words convey and regardless of Eckbo's personal concept of nature and culture implied by the relationship between circles and squares in the Goldstone plan, there is the matter of the large central triangle and the numerous smaller triangles that are visually significant in the Goldstone synthesis, Figure 4-78. Most of these triangles are almost completely enclosed within the largest square, indicating that an aspect of nature was left behind when the archetype of wholeness crossed from unconsciousness and into consciousness. The culture in 1948 was not environmentally conscious. Ian McHarg's book, *Design with Nature*, was not published until 1969, and environmental concepts only began to come to the attention of the public in the fifties and sixties. Eckbo was a product of the culture of his period, as we all are. Therefore the culture had to have exerted an influence over his unconscious attitudes, no matter what his consciousness said.

Look again at the Goldstone plan, Figure 4-77. In comparison to the sparse and artificial rigidity of one of the early French modernist plans, it is an exuberant interplay of abstracted geometries implemented in hard- and softscapes. Look again, though. Nature in this design is tightly controlled. Despite the rhetoric, there is no messy, organic quality here. The aspect of nature that is manifested is that of matter controlled, regimented. The aspect of matter that remains in the unconscious is matter in the form of unrestricted growth. Many of the geometries are picked out by shrubs in impeccably-straight lines, or they follow the exact curve of a circle's segment. The triangles thus visually display the hidden conflict between conscious and unconscious attitudes, between Eckbo's beliefs and the beliefs of the culture in which he lived and worked.

It is important to note once again that the Goldstone garden was designed in 1948. Eckbo died in 2000. His writings continued to express his consideration of natural factors as a design imperative throughout his long career. It is possible that an analysis of a garden in his later years may yield a different outcome. At this point, however, it may be said that a conflict between conscious and unconscious attitudes is manifested by the many triangles contained within the Goldstone garden's plan. The fact that such a conflict exists in no way negates the role that Eckbo played in bringing environmental issues to the forefront of the public mind. His beliefs, writings, and teaching

influenced countless young landscape architects who became better caretakers and protectors of the environment, as well as better designers.

Not all landscape architects who followed after Eckbo share his belief in the importance of nature, however. One of these is Martha Schwartz, the currently-practicing landscape architect that is selected for this study's final analysis.

### **A Martha Schwartz Garden**

This section focuses on the perceived culture of Martha Schwartz as exhibited by her writings and her designs. An attempt to define in any complete sense the larger culture that exists today is beyond the scope of this study, although a few comments are in order because a containing culture does impact the work of designers, both consciously and unconsciously.

Contemporary America is multi-racial (black, white, red, yellow, and all of the colors in between), multi-ethnic (Italian Americans, Chinese Americans, Mexican Americans, Irish Americans, and so forth and so forth), multi-cultural (black, white, techno, blue collar, gay, straight, old, young, and so forth and so forth). We are individualistic; we believe in the entrepreneur as the fulfillment of the American dream and self-fulfillment as a personal goal; anything is possible if you just work/think/try hard enough. We are supposed to be creative and innovative; our artists, thinkers, and doers are supposed to be the avant garde, on the cutting edge of science and technology, although we are no longer quite so sure of our superiority as in past times.

We are a nation of contrasts and opposing lifestyles, a "disposable society." Anything/everything can be thrown away, replaced, replicated. That which is disposable has no inherent value -- it can always be replaced -- and frequently with something that is better. At the very least it can be replaced with something different; the grass is greener . . . . There is mass production, consumerism, the "rat race." There is down-sizing of companies and a concomitant firing of thirty-year employees. There is frequent job change to improve position, money, lifestyle.

We are a country of extremes -- a stone soup of opposites: the Moral Majority and the Liberal Minority; the rural South/Midwest and the urban/industrial East; the Feminist Movement and the Promise Keepers. With all of these influences simmering away in the American pot, the possibility exists for many different types of designed landscapes to co-exist. And they do. This study, however,

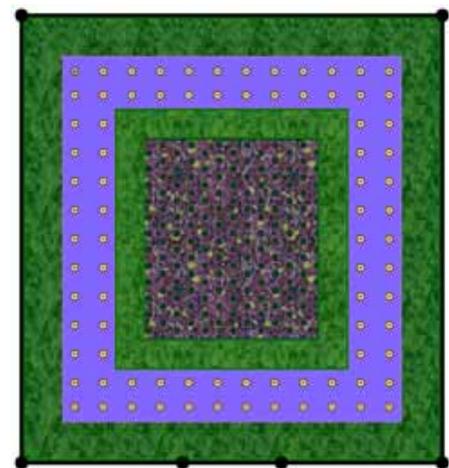
concentrates solely on the work of Martha Schwartz and how her designs reflect her personal view of American society.

### **The Culture of Schwartz**

With a Fine Arts degree from the University of Michigan and a landscape architecture degree from Harvard, she terms herself an artist first and a landscape architect second. Pop artists such as Andy Warhol, Jasper Johns, and Robert Rauschenberg, who are interested in banal everyday objects and common materials, have particularly influenced her work. (Schwartz, 1993, p. 264) She believes that the landscape should represent, embody, and symbolize how each designer sees his/her world. (Meyer, 1997, p. 7) Her designs are thus conscious commentaries on American society/culture and the world as she sees it. Schwartz's work is, therefore, often complex, always colorful, sometimes brash, and sometimes thought-provoking, and she has been outspoken concerning her own point of view. In the words of Elizabeth K. Meyer (1997), chair of the graduate Department of Landscape Architecture at the University of Virginia:

Schwartz's works, especially those of the 1980s, were interpreted as transgressions of that which was appropriate for landscape architecture and, even worse, as ironic commentaries on the state of the discipline. The critics were right on both accounts. Her work was a form of built criticism and construction, simultaneously challenging existing norms and imagining new landscape worlds to replace the old. (p. 5)

Schwartz's work thus challenges the profession of landscape architecture's definition of the field as well as popular culture's definition: "[N]atural versus cultural, enduring versus temporary, real versus synthetic, serious versus ironic, background versus foreground." (Meyer, 1997, p. 6) Her fellow landscape architects criticize Schwartz for her untraditional approach to design, particularly for her use of contemporary materials, perceived as commonplace and profane. Such materials include off-the-shelf and temporary items, pressed concrete, and plastic, among others. (Meyer, 1997, p. 5) Her designs thus unequivocally grow out of contemporary society

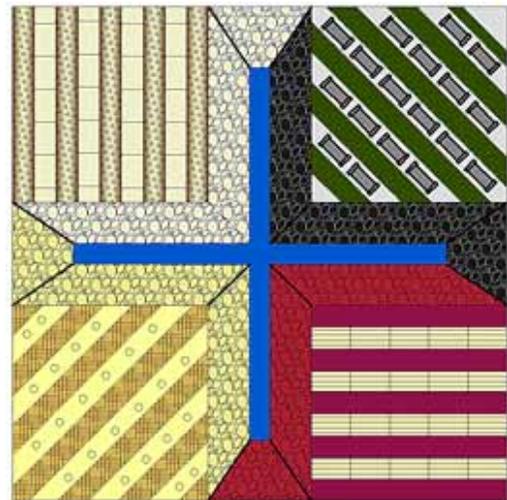


**Figure 4-79.** The Bagel Garden by Martha Schwartz, 1979. (Drawing by author.)

as reflected in both her words and in the materiality of her landscapes. As other artists have before her, she often reflects the undercurrents of society before these undercurrents are fully surfaced.

Schwartz is an idealist who, in her own words, tries “to put some spirit into a place that is usually devalued and undervalued, and to imbue the landscape with some magic or meaning . . . .” (Meyer, 1997, p. 106) This conscious attitude, theoretically honoring both psychic spirit and earthly matter, is likely to activate the mandala archetype -- and her work contains a multiplicity of circles and squares and lines, some crossing axes and some not. The first garden that brought her to the attention of critics is an example of multiple squares known as the Bagel Garden, Figure 4-79, and was executed in the small front garden of her Back Bay, Massachusetts, Georgian rowhouse. Between existing low hedges of box a point grid of weatherproofed bagels is placed on top of purple aquarium gravel. Purple *Ageratum* fill the center space. Although there are no quartering lines in the Bagel Garden, the nested squares form a classic mandala pattern.

Despite the squares in the Bagel Garden, Schwartz makes it clear that the psychic world is the real place where she, as a human being, lives. In her words, she is “energized by the power and beauty of ideas.” This is not a single, uniting idea as in the classical world; Schwartz is energized by many ideas. She is an artist and a designer; her world as an artist and a designer begins in the abstract world of ideas and ends with the implementation of an idea -- until the next one comes along. The materials from which her designs are constructed are often carriers of the meaning; they are symbols, meaningful and important because of the ideas that are attached to them, not because of any inherent value they have as physical objects. This is illustrated in her design for the Columbia Center, a 1990 plan for an office complex courtyard that remains unbuilt due to the 1992 recession, Figure 4-80. (Schwartz, 1997, p. 134)



**Figure 4-80.** Plan for the Columbia Center by Martha Schwartz, 1990 (unbuilt). (Drawing by author.)

Interestingly, the Columbia Center courtyard was consciously conceived as a “four-part garden . . . based on a traditional Indian and Islamic concept: the quadrants symbolize the four corners of the earth and are rendered in red, yellow, black, and white materials.” (p. 134) There are obvious symbolic overtones to the choice of colors for each of the four “gardens” that make up the courtyard and these meanings attach themselves to the materials used in each. The quadrants contain lines of vegetation alternating with hardscape and the sloping back walls lead up to water channels filled with blue marbles. Going clockwise from the top left, they are: white garden with paper birches and limestone; black garden with anthracite, asphalt, and Liriope; red garden with red granite, birch paths, and purple plum trees; yellow garden with yellow sandstone, yellow-twig dogwoods, and bird baths. (Schwartz, 1997, p. 134) Schwartz’s mandala is traditional in that it is divided into four equal quarters, but it is highly personalized in its detailed implementation. Conscious and unconscious imperatives are merged into one.

Even Yosemite does not rival the pull of ideas for Schwartz:

. . . I love cities; they are the repositories of culture. I am more excited by what I can see and hear in New York than by what I could see and hear in Yosemite. (Meyer, 1997, p. 107)

Schwartz concedes that natural landscapes play an important role in American culture, but what interests her most is “the landscape we make and occupy.” (p. 107) She goes on to say:

I don’t believe that transforming nature to meet our needs is automatically destructive if one considers humans as part of nature. I believe one can and should form cities, houses, and rooms -- places to eat and relax, places to live -- out of landscape. (p. 107)

However, Schwartz does not discount the *idea* of nature. In discussing wilderness with Meyer (1997), she says the following:

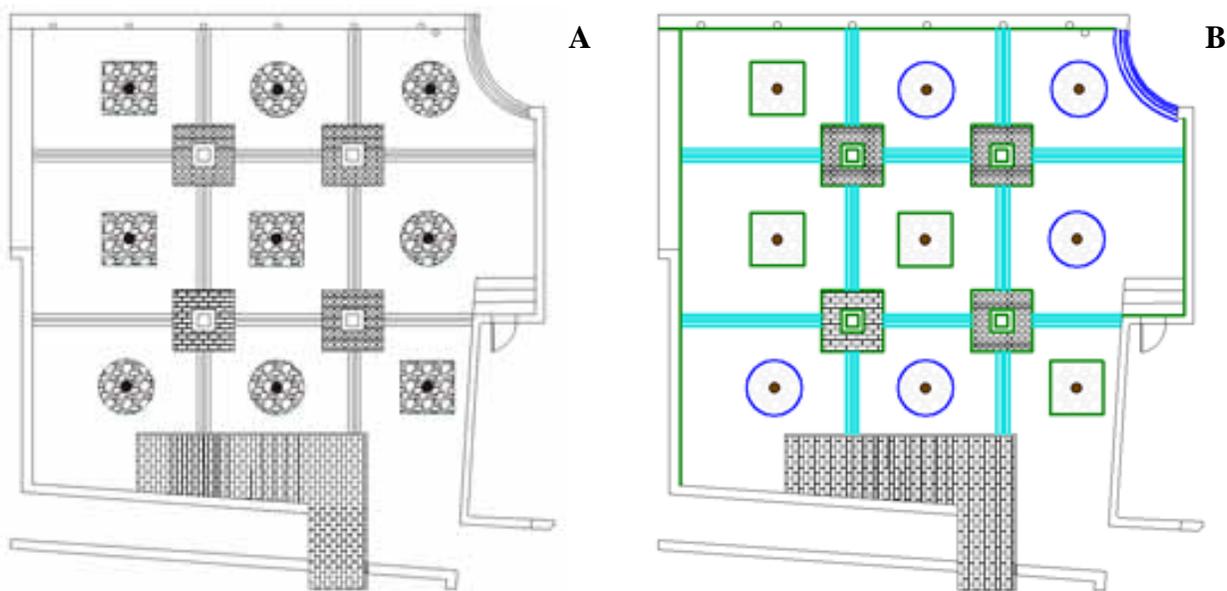
I think it is important in an abstract way. We all need to know that the wilderness exists -- that if we had to get to it, we could. But very few of us now experience actual wilderness -- it’s an abstract notion to most Americans. . . . I’m not sure we couldn’t be happy with virtual wilderness -- on a computer screen or in a virtual reality mode. Being in the wilderness is a far more abstract experience than living in a city or a suburb. The wilderness is a romantic fantasy that we carry with us, but it’s not part of our reality. (Meyer, 1997, pp. 108)

This, then, is Schwartz’s culture. It is a highly personalized view that sees the world as a melange of exciting ideas, with nature in the form of wilderness as just one more abstraction. For Schwartz, nature/wilderness is important as an idea, but it has no relevance for most people who are

immersed in the current American culture. The corollary to a psychological investment in products of the mind (culture), as opposed to a psychological attachment to concrete objects in the physical environment (nature), is that nature is devalued and made subservient to culture. Nature as a whole - - the entire corporeal world of matter, of which those things that make up wilderness is a part -- thus becomes merely a means of expressing ideas tangibly. The impalpable universe of the mind dominates the physical world of matter. How this view of nature and culture is expressed in Schwartz's design of the Dickenson garden is the subject of the analysis that follows an inventory of the garden's mandala components.

### Dickenson Garden Inventory

The Dickenson garden was designed in 1991-1992 for client Nancy Dickenson, Figure 4-81. It is part of an adobe house located on twenty acres of mesa north of Santa Fe, New Mexico. The

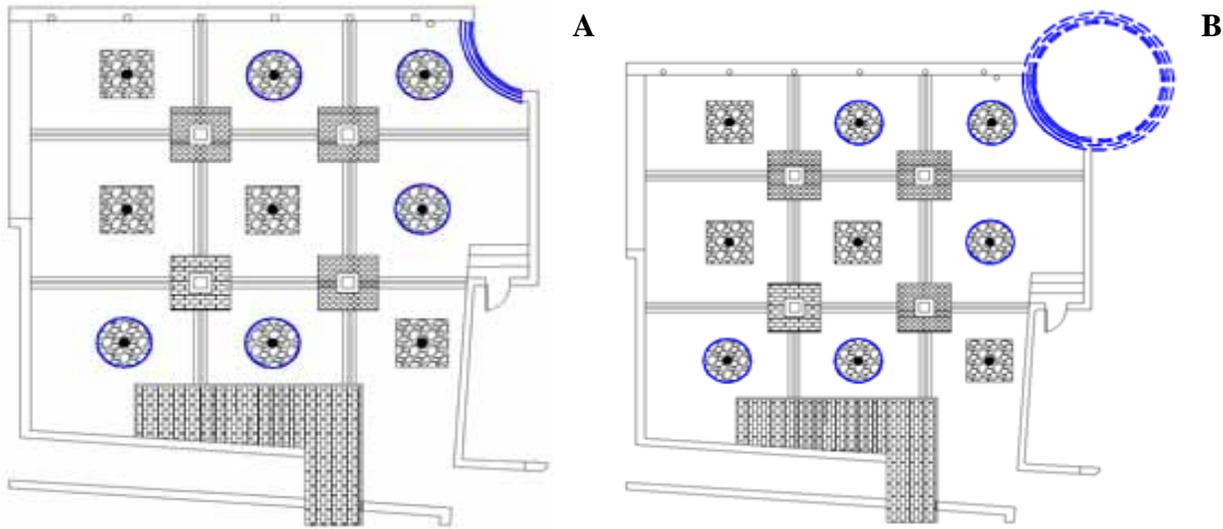


**Figure 4-81.** Dickenson house by Martha Schwartz, 1991-1992. A) Plan. B) Coded mandala elements. (Drawings by author.)

garden itself is located in a sunken courtyard off of an auto court. Walls surround it so that no visual transition is necessary between the surrounding desert landscape of exposed soil, pinyon pine, and juniper. Schwartz (1997) describes it as follows:

Visitors . . . proceed to a sunken courtyard where a grid of fountains and runnels encloses nine flowering crab-apple trees. White marble boulders under the trees suggest exaggerated gravel. Four square brick fountains are lined with brightly colored metal panels that enhance the water's sound. (p. 139)

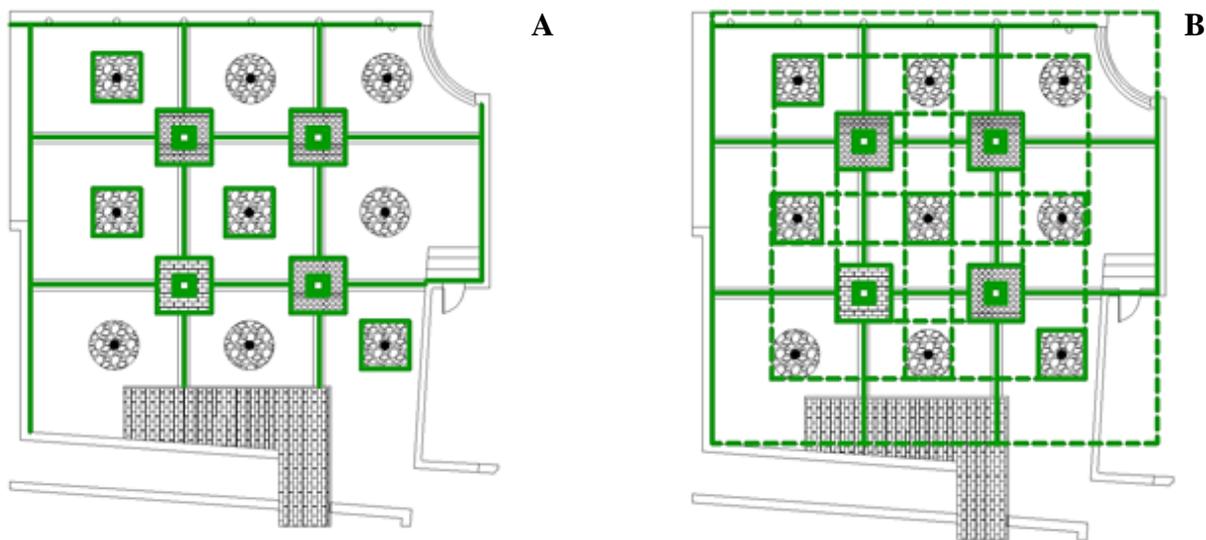
In Figure 4-82, circular elements are separated out of the garden's design in order to perceive better their contribution to the overall pattern. Figure 4-82, A, has existing circular elements drawn in blue as found in the original plan. Figure 4-82, B, the partial circles that compose steps in the upper right of the plan are completed.



**Figure 4-82.** Dickenson garden's circular elements in blue. **A)** Existing. **B)** Completed. (Drawings by author.)

In Figure 4-82, B, the partial circles that compose steps in the upper right of the plan are completed.

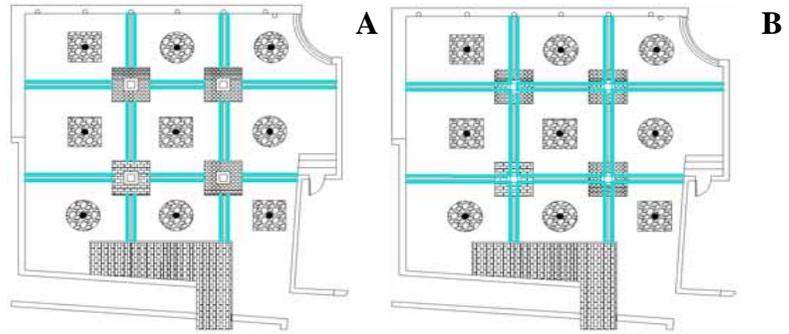
Figure 4-83 contains rectilinear elements in the Dickenson garden's plan. Figure 4-83, A,



**Figure 4-83.** Dickenson garden's rectilinear elements. **A)** Existing. **B)** Implied squares completed. (Drawings by author.)

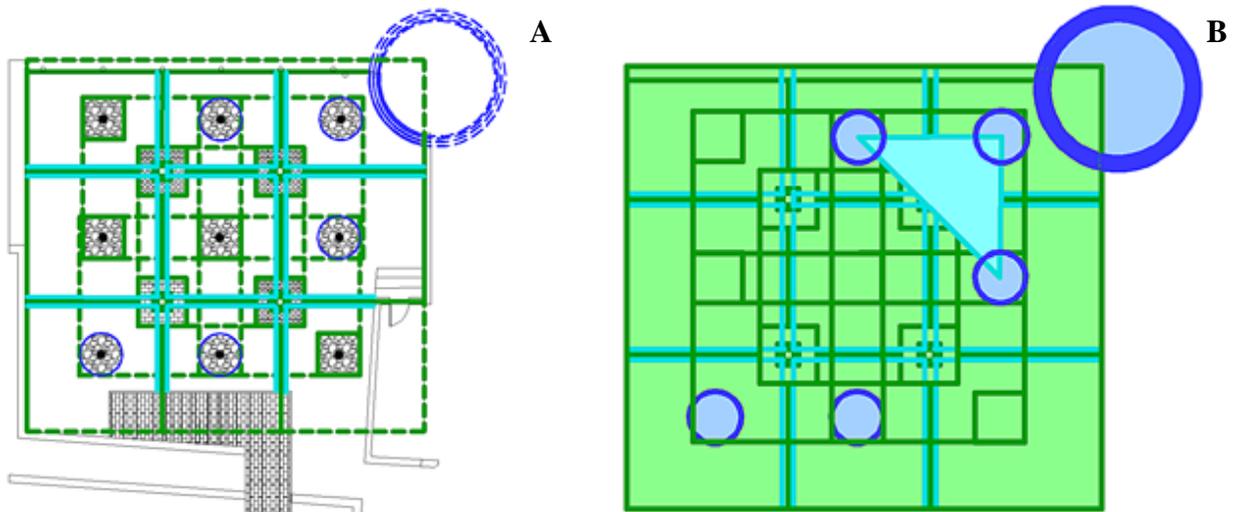
shows existing lines that form either complete squares or imply them. All implied squares are completed in Figure 4-83, B. Overlapping squares reinforce their psychological importance.

In the Dickenson garden  
runnels of water form multiple  
crossing lines, Figure 4-84, A.  
When these lines are completed,  
they form crossing patterns similar  
to quartering lines or axes, only



doubled in each direction, Figure 4-84, B. Instead of four equal segments, they create a nine-square grid, a device often used for design exercises in architecture and landscape architecture or, as here, serves as an underlying grid that organizes a design. (Love, Fall 2003/Winter 2004)

When the three elements; circles, squares, and crossing lines; are re-combined into a synthesis, as in Figure 4-85, A, the mandala patterns contained within the original design become clearer. The circles anchor the corners of two squares diagonally across from each other, and the upper three circles form a triangle. The triangular shape is drawn, and the final figure is filled with coded color, Figure 4-85, B. Schwartz's design can now be seen as a series of mandalas overlaid one on top of the other with, of course, a strong triangular shape imposed onto one of them. It may also



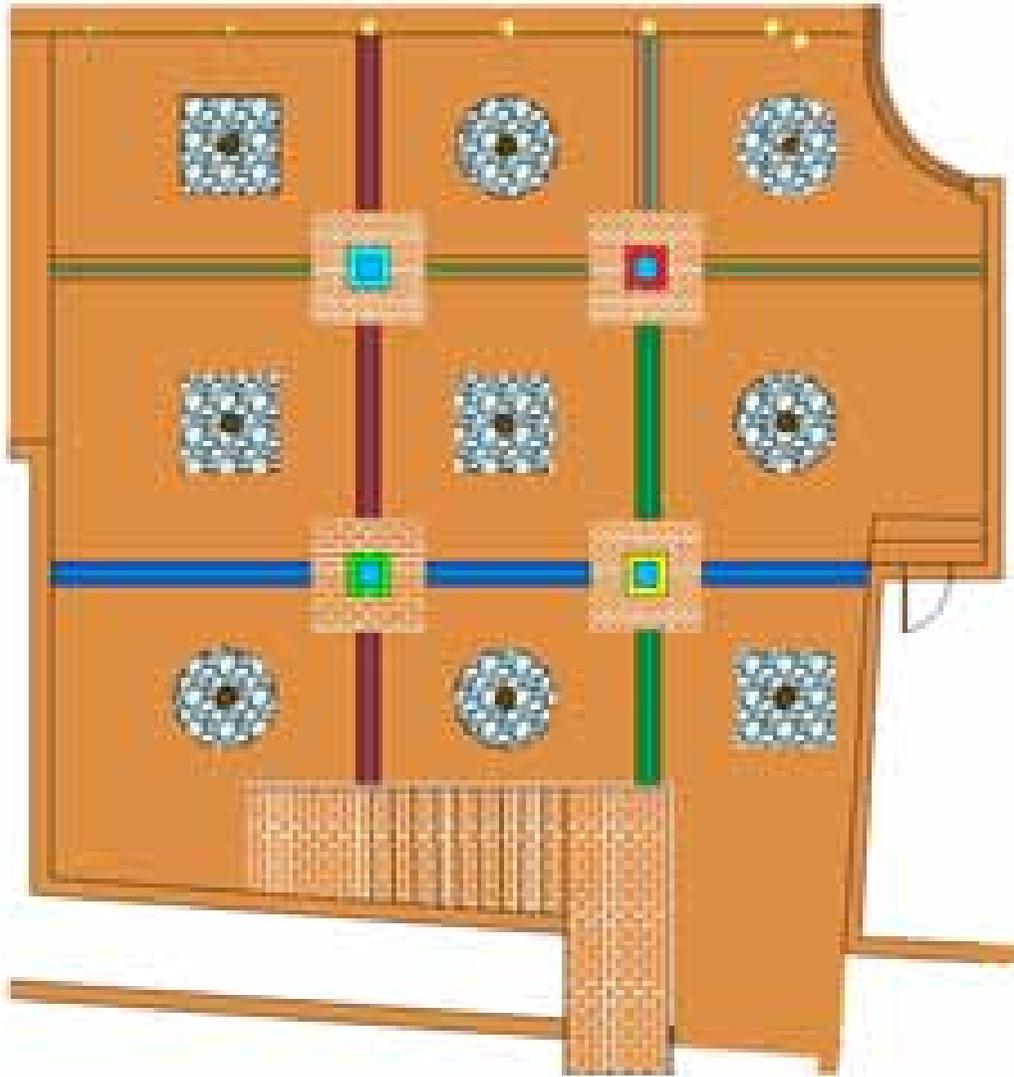
**Figure 4-85.** Synthesis of the Dickenson garden's inventory of mandala elements. **A)** First overlay of circles, squares, and crossing lines. **B)** Color-filled refinement. (Drawings by author.)

be seen as a single, more complex mandala. This second perception is the base for the analysis in the following section.

## Analysis of the Dickenson Garden

When Schwartz's work as a whole is examined for its visual characteristics, there are several consistencies that become apparent. Her designs tend to contain a gridded horizontal ground plane, patterns that appear layered, and rotated elements that go against the directionality of the ground plane. They are also frequently colorful abstractions of classical forms interpreted with twenty-first century materials.

The Dickenson garden, Figure 4-86, employs two of these four traits. It contains a gridded



**Figure 4-86.** Plan of the Dickenson garden, 1991-1992 by Martha Schwartz. (Drawing by author.)

horizontal ground plane, and it appears to be composed of multiple layers. Although the mandala pattern is obvious to one familiar with it and looking for it, there is no evidence that Schwartz

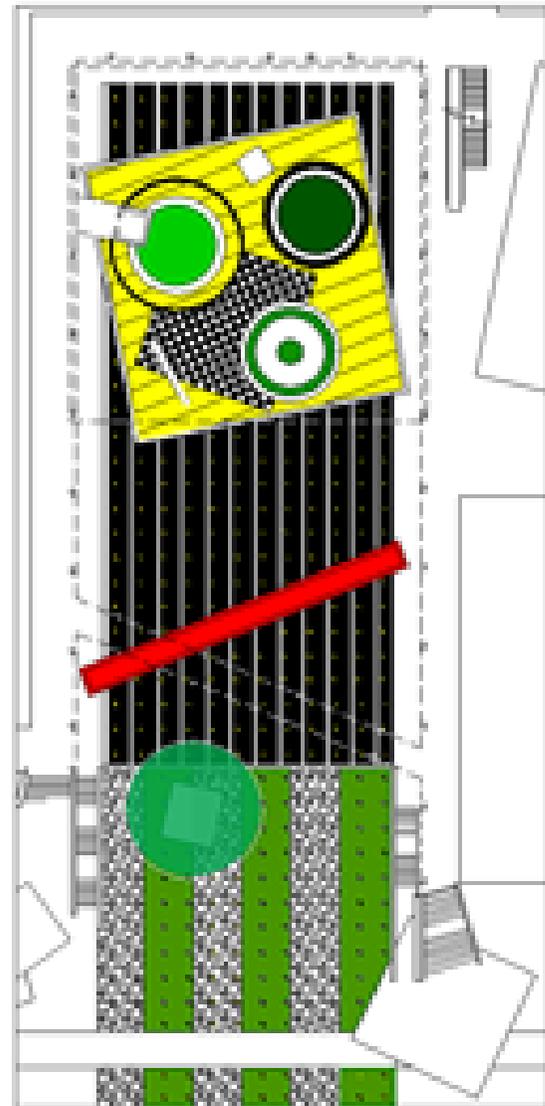
intended any such interpretation. It is not, therefore, a conscious use of the past to inform a current design as is the Bagel Garden, Figure 4-79, and the Columbia Center courtyard, Figure 4-80. The former is based in a classic parterre from the Renaissance and Baroque periods, and, as discussed earlier, the latter is based in a quadripartite paradise garden.

### Psychological implications

Schwartz's most frequently used device is the gridded rectangular ground plane. The lines of the grid are frequently composed of smaller, circular elements and is most often the design's major organizing component. Nature is thus abstracted into a horizontal plane, controlled and organized by ideas that march across its surface. Both the Bagel Garden and the Rio Shopping Center, Figures 4-79 and 4-87 respectively, contain point grids made up of small curvilinear objects. In the Rio Shopping Center the organizing point grid is composed of gilded frogs that Schwartz is said to have found locally, an example of her use of "profane" off-the-shelf commercial products. The frogs not only advance across the ground plane but appear to float on the surface of a black pool. Her grid is often relentless, laid in precise stripes or ninety-degree patterns across a landscape or hardscape.

According to Schwartz such a geometric order imposed onto the landscape means that it is inhabited by human thought. (Meyer, 1997, p. 110)

With geometry, she clearly defines her design as human-made -- idea-made -- rather than of the "natural" world that to Schwartz is unnatural. This attitude toward nature as wilderness is exemplified by her treatment of plant materials, which



**Figure 4-87.** Rio Shopping Center by Martha Schwartz; Atlanta, Georgia; 1988. (Drawing by author.)

generally either establish or reinforce a grid. They are also usually contained within tightly-defined borders, with none of the characteristics of uncontrolled nature visible. The whole of nature as matter is thus in service to Schwartz's investment in abstracted ideas.

When the ground plane is a strongly established grid rather than axes that lead the eye to a central location as in a paradise garden plan, it has the effect of further negating the importance of a single center to a design. Through its repetition, it moves the viewer's eyes to the periphery in both directions, implying a continuous non-hierarchical order. (Bleam, 199, p. 235) According to Treib (1993) the removal of the traditional axis in modernist landscape architecture expands the restricted view of linear perspective making it omnidirectional. (p. 55) This is one of the three principles of modern architecture as defined by Henry-Russell Hitchcock and Philip Johnson in a 1932 exhibition at the Museum of Modern Art. (The other two were a conception of architecture as volume rather than mass and the proscription of applied ornament.) (Treib, 1993, p. 44)

Schwartz's work may occur in the post-modern era, but she calls herself a modernist and her visual language is of modernism. (Meyer, 1997) This perception is supported by Rosenau (1992) in the following:

All post-modernists agree that conventional versions of these variables [conventional history, linear time, and predictable geography or space] constrain thought and limit understanding. History has a much diminished status within a post-modern approach. They are suspicious of inquiries concerned with knowing and representing the past. (p. 21)

Schwartz's work displays a knowledge of conventional history that, according to Rosenau, post-modernists disdain. This is evidenced in forms from the past that are referenced in her work. By re-interpreting and transforming these with modern materials, Schwartz makes the forms her own, at the same time honoring their origin. She is interested in knowing and representing the past, often acknowledging the source of her inspiration. (Meyer, 1997) This honoring of historical precedent does not follow the most basic of post-modernist assumptions. Schwartz's work may therefore be acknowledged as modernist, despite its occurrence in the post-modernist era.

In the Dickenson garden, although its ground plane personifies abstracted nature, the nine-square grid furnishes no directionality. This is an introverted garden, surrounded by high walls, and, despite the fact that a nine-square grid has the possibility of a central focus, this is negated by the four

fountains that pull the eye away from the center and into the larger garden area. The tree in its square container that does occupy the center space is one among nine, further reinforcing the omnidirectionality of the space, as well as reinforcing the grid. The plan for the Columbia Center is also omnidirectional; each of its quartered gardens has a design implying a different direction, thereby cancelling in the overall design any individually-implied movement.

Schwartz's gridded horizontal plane often serves as a counterpoint to other elements layered over it. In some cases these are more grids; in some cases they are elements that float above it. The regularity of the grid pattern organizes the design, serving as a foil for these other elements. Schwartz's metaphorical world of ideas then becomes omnidirectional, expressing an infinity of possibilities. In the Dickenson garden layered elements are raised above the surface of the courtyard, visually and psychologically separated from it. All of the elements in this garden, in fact, are both physically raised above the ground plane and then visually disconnected from it with materials that differ from the ground plane, reflecting the rift between culture and nature that Schwartz verbalizes. The rift is further evidenced by the triangular formation of circles in the upper right, Figure 4-85, B. Its location within the square grid visually illustrates the conflict between conscious and unconscious attitudes toward nature, as discussed in the section on the English landscape garden earlier in this chapter.

Randomly-scattered elements, appearing to float over an organizing grid, appear frequently in Schwartz's designs. They may be circles or rotated squares filled with another grid or other shapes entirely. Circles, when they are major elements, often become a multitude. Again the Rio Shopping Center, Figure 4-87, is an example. Note the floating circular elements on top of the rotated square (meeting place and bar) on top of the organizing point grid of gilded frogs. The King County Jailhouse garden also floats cast concrete topiaries (referencing the Baroque garden) on top of a base of diagonal lines. In the design for the 1995 Littman wedding in Deal, New Jersey, the reception area around the pool is painted with many bright yellow circles of different sizes. The 1996 Miami International Airport Sound Wall, punctuated with randomly-scattered circles of colored glass, is another example. These and others like them visually depict in their shape and materiality the excitement and importance of ideas to Schwartz.

The crossing lines/axes in the Dickenson garden are doubled or, perhaps, quadrupled. Since quartering axes symbolically support the four-fold concept of wholeness, their inclusion here, and particularly their repetition, signifies the importance of wholeness, of honoring both halves of humanity's world, to our culture. It also signifies the lack of wholeness in Schwartz's conscious psychic construct. When something is neglected or consciously rejected, as Schwartz does with the natural world, the rejected contents take on an unconscious, psychological life of their own. They are then projected out of the unconscious onto objects in the conscious world in an attempt to bring the neglected area to the attention of the individual. The crossing axes, the use of traditional mandala patterns, the multiple squares are the result of Schwartz's denial of nature as a valued and *working* partner with culture, evidence of a compensatory projection of rejected unconscious contents.

More evidence of Schwartz's attitude to her physical side is the use of a gridded horizontal ground plane that is most often rectangular. It is tightly controlled, organized, unnatural in its precise regularity, a logical reflection of someone who is most interested in the landscape we make and occupy and who truly believes that chaotic nature, an inherent part of earthbound matter, is irrelevant to contemporary life. The multitude of floating elements, superimposed over the gridded plane reflects the importance of ideas over earthbound matter. The strong statement made by exuberantly abundant circles in several designs personifies the dominance of ideas for Schwartz.

Schwartz's work reflects a point of view that is unabashedly personal in its interpretations. It is the voice of an individual whose conscious and unconscious attitudes are reflected in her work. She is invested psychologically in the excitement of ideas, and her gardens feature multitudes of floating circular elements and other shapes that are symbolic of these ideas. She believes in a physical world that is built and occupied, and her gardens are constructed on top of a rectangular gridded horizontal ground plane that personifies abstracted controlled organized nature. She rejects the relevancy of nature in her everyday world, yet her designs abound with nature's symbol, the square. Her unconscious is thus telling a different story. The trueness of a universe that honors both earthbound nature and abstract spirit is not part of Schwartz's personal cosmos, yet the ultimate symbol of that wholeness, the mandala archetype, is often imaged in her work. Mandalas of squares within squares may be a psychic compensation for the lack of connection to the real world.

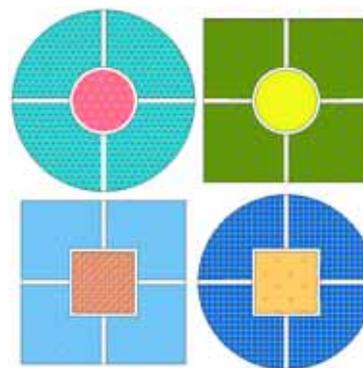
Throughout this chapter we have seen how garden plans in each of the seven periods analyzed reflect the attitudes of the society in which they are immersed. Attitudes toward nature and culture are revealed by the details of the mandala archetype within these gardens or by the manifestation of a deconstructed mandala's components. Circles, squares, and crossing lines or axes -- their inclusions or not; their relations to each other; their rotations or not; their numbers, sizes, and repetitions -- reveal the conscious and unconscious contents of the human mind and its relation to the wholeness of the universe, to nature and to culture. Chapter Five summarizes these findings and concludes this study.

## CHAPTER 5 CONCLUSIONS

This research grows out of a particular view of the world and is only one of many ways that an analysis of the selected gardens could have proceeded. In fact, all of these gardens have been examined and written about before this, but none have been subjected to a psychological analysis based on Jungian principles until now. Such an interpretation opens a new window, enabling a fresh look at the patterns found in garden plans.

Specifically, this study tested the following theory:

A collective, archetypal mandala image, when expressed within selected Western garden plans, reveals attitudes toward nature and culture in the details of its expression. As discussed in previous chapters, nature and culture are represented by square/rectangular and circular elements, respectively, in each plan. An abstracted, traditional pattern of an archetypal mandala is generally composed of a centered circle or square surrounded by a circle or square, see Figure 5-1, and is divided into four equal quarters. (Jaffe, 1964)



**Figure 5-1.**  
Traditional mandala  
examples. (Drawings by  
author.)

Expressed mandalas, which are indicative of their place and time in history, are influenced by cultural attitudes and, therefore, may deviate quite sharply from this originating pattern.

In the following sections the findings of the psychological interpretations of extracted patterns resulting from the inventories of the seven garden types addressed in Chapter Four are briefly discussed, beginning with Paradise (Court of the Lions) and Medieval (Cloister at Arles) gardens, and continuing in order with Renaissance (Villa Lante), Baroque (Vaux-le-Vicomte), English (Stourhead), Modernist (Goldstone), and Contemporary (Dickenson) gardens. Finally, conclusions that may be drawn from the findings complete the chapter and this study.

### Summary of Findings

#### Paradise and Medieval Attitudes

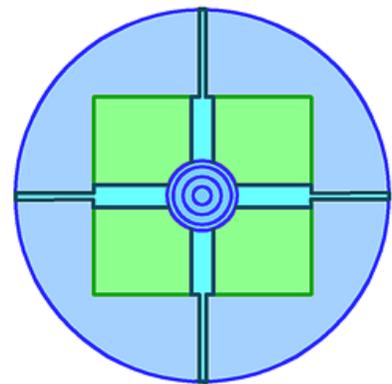
Both the Paradise and Medieval gardens are introverted and reflect a spiritually-centered society, Muslim and Christian respectively. There should, therefore, be similarities between the two

extracted patterns, and there are. Both have mandala plans with a central circular figure, thus symbolizing the vertical orientation of a society focused on spiritual matters. They are symmetrical, and the ground plane is divided into four equal quarters with a circular center, Figures 5-2 and 5-3. Symmetry suggests a traditional society, one that looks to the stable past for its values, as both of these do. Both mandalas also closely resemble the originating collective pattern, indicating that during these periods human culture and nature are closely linked. This view of the cosmos reflects the importance of both aspects of life and the influence that each has on the other. Life is cyclical, influenced by seasonal changes, by climatic events, by births and deaths. Cultural attitudes take such happenings into account and, at the same time, appeal to their Gods to protect and heal them from such disturbances. The spiritual is the ultimate authority in these societies, as evidenced by the dominant central circle. This reflects the Islamic and Christian focus on universal truths, a paradisaical life after death, and living a life on earth based on the ideals of their faith.

As to be expected, there are also differences between the extracted mandalas of Paradise and Medieval gardens. These differences are reflected in the details of their expression.

### **Paradise pattern**

Circles, symbolizing spirit/culture, outnumber the single square and dominate the composition, just as the Muslim faith dominates many aspects of Islamic life. By surrounding the one square with a circle, nature becomes symbolically controlled by culture, as it must be in the arid desert region where the Paradise garden evolved. Nature serves culture, so that culture survives. The position of circular elements in the absolute center of the figure focuses attention there, reinforcing Muslim faith as the focus of Islamic life. The overall importance of heavenly concerns is also indicated by multiple circles that compose this central element.



**Figure 5-2.** Paradise extracted mandala. (Drawing by author.)

The crossing lines increase in width as they move toward the mandala's center. This has a two-fold effect. First, it moves the eye toward the center, reinforcing the importance of the circular center symbolizing the spiritual. Second, it honors nature because the width of the lines double when

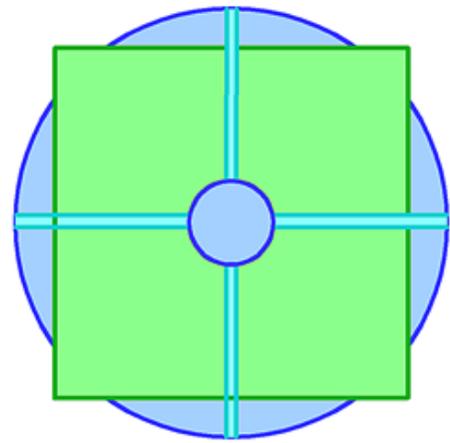
they reach the square's field, emphasizing nature's importance as well. This is crucial because, although nature is subservient to culture, it contributes to life. Idealized nature, the perfect square, is also the way the Quran visualizes a perfect life after death. Since the four-fold composition of the mandala is another signifier of wholeness, the mandala's quartering supports the symbolic meaning of the entire image.

The extracted mandala of the Court of the Lions, when visually analyzed and psychologically interpreted, is thus reflective of societal attitudes toward nature and culture in its overall pattern and in its expressed details. Its underlying pattern is derived from that of an abstracted, archetypal mandala, a symbol of wholeness that combines into one image circular elements that symbolize culture and the spiritual and rectilinear elements that symbolize nature and the concrete.

### **Medieval pattern**

The Medieval mandala pattern as extracted, Figure 5-3, reveals differences between the way those in this society relate to nature and those in Islamic society relate to nature. The square extends beyond the boundaries of the enclosing circle, making it compete with the outer circle for dominance. This reflects the increased importance of the natural world and the coming transition from a vertical to a horizontal orientation that occurs in the Renaissance, as discussed in

earlier chapters. However, the spiritual is still important, still a focus of society, and this is reflected by the central location of the second circle, but concerns with the concrete and increased control of the natural world is eroding the almost exclusive preoccupation with Christianity of the early Dark Ages. Notice that the pattern of the quartered lines is simple, straightforward, with an unchanging width regardless of whether a field symbolizing culture or nature is crossed. There is no increased width or emphasis as these lines move toward the spiritual center of the mandala as there is in the Paradise mandala. This implies equality between nature and culture rather than a dominant culture, further supporting and reinforcing the transition that is occurring as a vertical/spiritual orientation moves into a horizontal/physical orientation.



**Figure 5-3.** Medieval extracted mandala. (Drawing by author.)

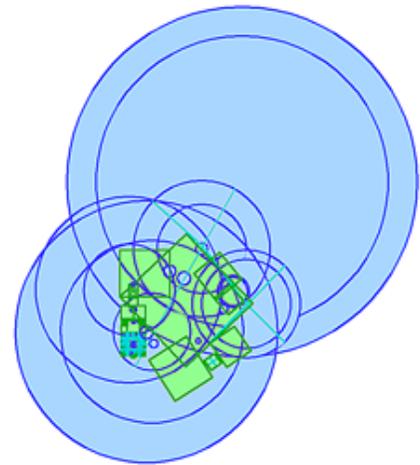
## Renaissance Attitudes

By now the transition from vertical to horizontal, from abstract to concrete, from a focus on the spiritual world to a focus on the physical world, has occurred, at least psychologically if not in actuality, and the multiplicity of circles and squares shown in the analysis of Villa Lante, Figure 5-4, reveals very different attitudes toward nature and culture than in the preceding eras. The simplicity of an integrated cosmos is no longer evident; attitudes toward nature and culture are much more complex in the new outward-reaching society.

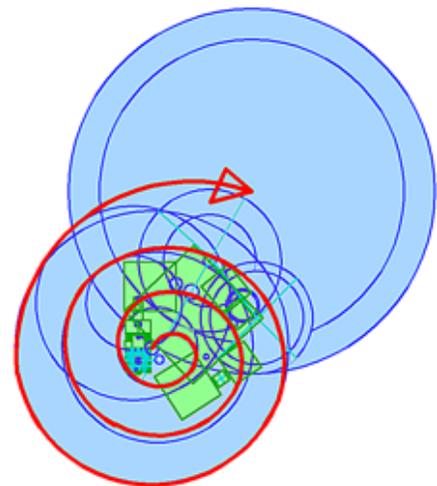
Three things are apparent when looking at the site synthesis: 1) Large circles dominate the composition and enclose rectilinear elements, as well as appearing to rotate around them; 2) rectangular elements are clustered together in a more or less central location; and, 3) no quartering lines are in the figures related to the hunting park adjacent to the garden, although there are in the garden. Because of the obvious differences between the two analyses, garden and park will be discussed separately, beginning with the hunting park.

### Park at Villa Lante

1) Although the spiritual side of life was devalued during the Renaissance, ideas were of consuming importance, seen in both the size and multiplicity of circles in Figure 5-4. The focus is not on a single, overwhelming idea as in the past; political and philosophical debates multiplied, as do circles here. The relationship between humans and their God was re-defined, a major shift in cultural attitudes, also reflected by dominating circles. New discoveries in science sparked many of the changes, indicated by circles that seem to revolve or “spin off” of squares, the locus eventually returning to the center of the cluster of squares in a spiraling curve, Figure 5-5.



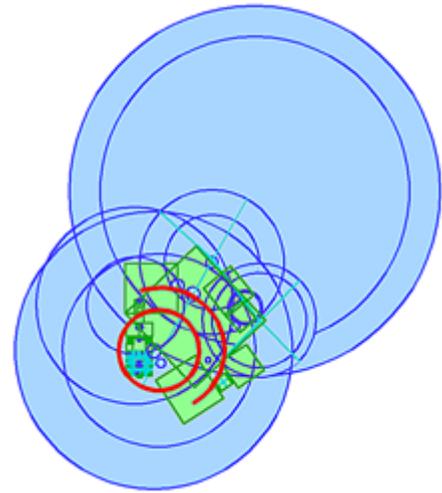
**Figure 5-4.** Villa Lante's synthesis/analysis. (Drawing by author.)



**Figure 5-5.** Rotating circles. (Drawing by author.)

Although an increased feeling of control over nature resulted in a reaching out toward that nature, it was psychological rather than reality-based, as witnessed by the wall that completely surrounds park and garden. Circles that enclose rectangular elements reflect this; it is the idea of nature that is expressed, not the actual experience of unrestrained nature. Lingering fear over the dangers of such a nature and the desire to control it is also manifested by enclosing circles.

2) As discussed above and in Chapter Four, scientific discoveries play a crucial role in initiating changes in the cultural attitudes of the Renaissance. Perceptions of the physical world change in a basic and central way. The single previous square is now multiplied, reflecting the new knowledge. The fact that the squares provide a focus for the overall figure is a further indication of the importance of these discoveries. The squares are also rotated, with none aligned in the same direction as the garden. They appear to swirl within and around one of the circles, see Figure 5-6,



**Figure 5-6.** Swirling squares.  
(Drawing by author.)

reinforcing the interactive relationship between the influence of culture on the perceptions of nature on the one hand and the influence of physical discoveries on cultural attitudes on the other.

3) Quartering lines in previous gardens have been prominent and have divided their mandalas into equal segments. This is not the case in the Lante park study. In fact, there are no discernable quartering lines here. Since these provide stability to a mandala and give equal emphasis to all parts of it, it is not surprising that in this time of flux as nature and culture re-define their relationship, or at least debate the place of each in a humanistic world, that they are not part of the larger site design's composition. They also represent a view of the cosmos in which humankind is embedded in and part of their environment. In the new world of the Renaissance, humanistic values have raised man above his traditional role as member of a larger order to that of ruler of his own, smaller universe.

### **Garden at Villa Lante**

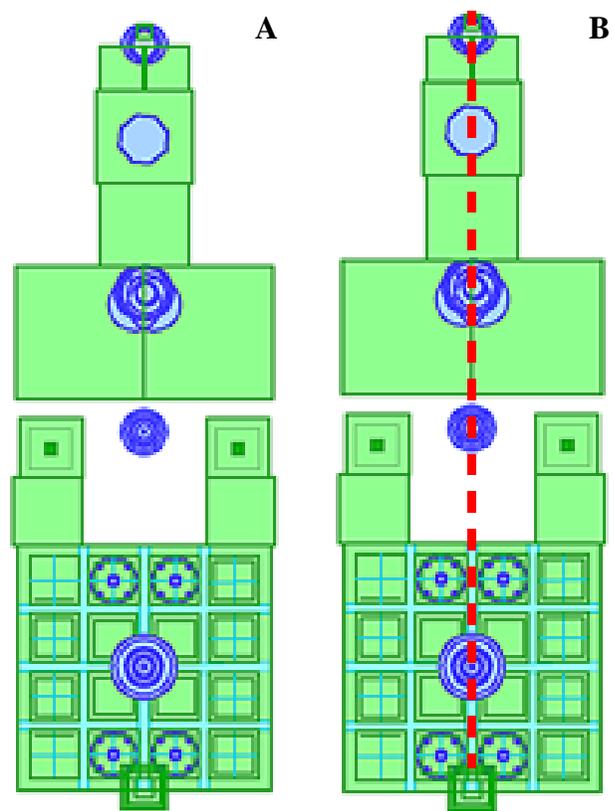
As with the park there are three things immediately noticeable when the garden's synthesis is examined: 1) there are many more squares than there are circles; 2) these squares are rigidly arranged

with no rotations of or in any figure; and 3) quartering lines are prominent, at least in the portion of the garden containing the lower water parterre. These points are discussed below.

1) Figure 5-7, A, reveals a composition comprised almost entirely of squares. Circles that are located on or just to the side of an imaginary line drawn down the exact center of the design from top to bottom, Figure 5-7, B, are the exception. Although the analysis reveals many more squares than circles, the positioning of the circles along the garden's axis, a major design component, supports a conclusion that they are of equal importance here. Ideas, in fact, are crucial to understanding this garden: Ideas on the beauty of nature combined with art, ideas derived from ancient writings around which the garden is designed, the idea of nature rather than the experience of it.

2) The arrangement of circles and squares in the design of the garden at Villa Lante is quite interesting from a psychological viewpoint. The garden represents the active portion of Ovid's *Metamorphoses* after the stasis of an earlier golden age, represented by the park, is ended by a flood. It portrays exactly the opposite in its rigidity and lack of any deviation from the perpendicular. Of course, when the subject of the garden's design is considered, this is exactly as it must be. Although the conscious intent is to convey growth and movement, this narrative is couched in symbols lifted from ancient writings and implemented with the artworks of ancient masters. There is no dynamism, no

cultural specificity, to the artifacts of a long-dead era that are not re-interpreted for the containing time and place. Metamorphosis may have been the theme, but it was not actualized because the symbols it used underwent no transformation before becoming part of the composition.



**Figure 5-7.** Garden mandalas. **A.** Circles and squares. **B.** Circles on a central axis. (Drawings by author.)

3) Quartering lines, non-existent in the park, abound in the lowest parterre, another clue to the lack of design transformation. This mandala pattern is very similar to those that exemplify the Paradise garden *oeuvre*, such as the Taj Mahal, Figure 5-8, A. The overall pattern of Lante's mandala, Figure 5-8, B, is composed of twelve small mandalas around its edge with a central fountain that is another traditional mandala, just as in the plan of the Taj Mahal. They are traditionally arranged, with a square ground plane and quartering lines that divide each into four equal segments. As the Renaissance mindset is very different from that of the Paradise era, the mandala pattern in



**Figure 5-8.** Comparison of Taj Mahal and Lante. **A)** Taj Mahal plan. **B)** Lante parterre. **C)** Lante synthesis. (Drawings by author.)

Lante's lower terrace refers to past attitudes as does the garden within which it is embedded. As discussed in Chapter Four, the garden's plan is constrained and in thrall to the past rather than reflecting the society in which it is manifested.

The garden is a small part of a much larger composition, and it therefore reflects a small portion of Renaissance society, that of a secular and religious elite who invested time and energy in displaying and interpreting symbols of the past. The truth of a society in which a major paradigm shift occurred, based in new knowledge of the physical world, is presented in the pattern of the park, clearly showing the dynamic interaction between nature and culture that created the new society. Scientific discoveries that sparked the development of Renaissance ideas led, in turn, to other discoveries that resulted in the development of attitudes seen in the Baroque period.

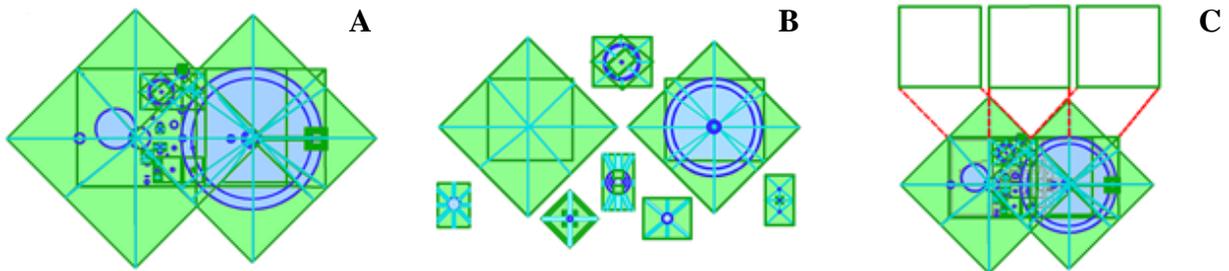
### **Baroque Attitudes**

Attitudes expressed at Vaux-le-Vicomte are a continuing evolution of the switch from a vertical orientation to a horizontal orientation. The first hint of this is expressed in the Medieval mandala, evolved psychologically during the Renaissance, and congealed into its next stage during

the Baroque period. The completion of this transition from spiritual to physical is revealed by several components in the synthesis of Vaux-le-Vicomte.

### Baroque pattern

The components here suggest that the overwhelming preeminence of nature has arrived and



**Figure 5-9.** Preeminent squares/rectangles. **A)** Background squares/rectangles. **B)** Rotating mandalas and mandalas with rotated/whirling crossing axes. **C.** Overlapping squares/rectangles. (Drawing by author.)

include squares that are the background of the entire composition; 5-9, A; rotated squares that place their mandalas into motion; 5-9, B; whirling or rotated quartering lines that reinforce the rotation of squares; 5-9, B; and overlapping squares, 5-9, C.

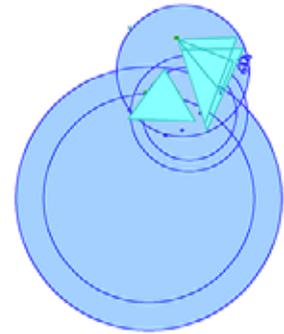
The dominance of squares is ultimately attributed to scientific discoveries that had far-reaching psychological consequences, as they did for those in the Renaissance. Humankind now believes that they possess the capability, if not the necessary knowledge as *yet*, to learn the secrets of the universe and to manipulate those in the service of mankind. Perhaps there is some hubris involved in this belief that is manifested in the quite large circles that almost, but not quite, overtake the two large squares. Whether this is true or not, ideas resulting from the new knowledge are obviously of major import in this culture. I submit that the standard interpretation of the Baroque garden as one that expresses man's psychological control over nature is, instead, that of nature's psychological control over the culture of man.

The rotation of squares and lines has one more aspect with important psychological consequences. Such a rotation of two elements of a mandala forces an appearance of motion onto the entire image. This implies that, though attitudes toward nature and culture, both in society and in relation to each other, may be temporarily fixed in place, this is not likely to last. This supposition is strongly supported by the fact that the two largest mandalas are not only teetering on a single point

but have each passed the 45 degree point where some momentary stability might be achieved. It must therefore be concluded that there will be a sharp shift in attitudes toward nature and culture during the period succeeding this one. This is discussed in the next section.

### English Attitudes

Traditional mandala patterns are implied at Stourhead, but, as at Lante they represent the past and not the present. Although there are exceptions, generally mandalas are in architectural plans that reflect the influence of ancient Italian artifacts found by artists and travelers to Rome and the hills of Tuscany. They do not have particular relevance for the current culture, other than to display lingering ties to the past. Stourhead's synthesis, Figure 5-10, reflects the validity of this conclusion visually.



**Figure 5-10.**  
Stourhead synthesis.  
(Drawing by author.)

### English pattern

The synthesis shows clearly that ideas are the overriding consideration in the English landscape garden. Architectural features are simply markers on a circuit in which the emphasis is on enjoying the sublimity of an idealized English countryside. They serve as a foil for the beautiful nature displayed by curving shoreline, clusters of trees, and distant deer. Their mandala elements are so small, in comparison to the overall figure, that they are barely perceived. Rather than having an integrity of their own, their importance is in their contribution to the overall ambience of the scenery as perceived from views that are designed into the composition. These set sight lines are the justification for the “follies,” and it is these that create the large circles in the synthesis and that are the important psychological factor.

Such *ideal* scenes are inspired by artists' *ideal* paintings and reproduced in a garden that is an *idealized* English countryside. The English landscape garden is not reality; it does not represent the chaotic order of true nature. However, its nature is closer to reality than that found in the French Baroque garden, seen by comparing the rotations of their square elements. The English square is rotated slightly; the French squares are rotated halfway to a completely new orientation. English nature may thus not be as unrealistic as that of the despised French formal garden that preceded it, but the lone square large enough to be perceived is completely surrounded by larger circles in the

synthesis figure indicating that the idea of nature is the overriding factor in the English attitude toward nature. The rotation of the square in the English garden, as in the French one, also represents an English attitude toward nature that is in motion and that is likely to continue to develop and change.

The triangle, of course, visually validates the out-of-sync character of English attitudes toward nature and culture. I think it is an even more telling prognosticator of things to come, however. Jung is very clear on the meaning of the manifested triangle, discussed in Chapter Four. A triangle is a fragment of a square; when it is expressed part of it remains behind in the unconscious. It therefore expresses a conflict; if there is no conflict the entire figure comes through into consciousness. In this case the conflict is between the idea of nature and the reality of nature, between the abstract and the physical. However, the triangular plan is a very small part of Stourhead's overall composition and tiny in the context of the entire synthesis figure. I submit that this small triangle is a harbinger of the total disconnect that takes place between nature and culture after the Industrial Revolution and as expressed in the Modernist garden. As Jung makes plain, an expressed triangle is psychologically significant. King Alfred's tower, located off the main pleasure circuit, represents a seed that can grow into a nature/culture rift. In other words attitudes have progressed to the point where the possibility of a total disconnect has entered the collective unconscious and from there into this small expression of a future possibility. The truth of the foretelling is in the Modernist garden.

### **Modernist Attitudes**

The triangle is manifested directly in early modernist landscape architecture in the shape of the garden itself, as in Guevrekian's 1927 Villa Noailles garden, Figure 5-11. In some of Paul Vera's gardens, Figure 4-62, the diamond shape (two triangles base-to-base) takes a central position or diagonal lines create triangular spaces in the garden. Other gardens are often abstracted compositions into which natural vegetation uneasily fits. Some "gardens" even eschewed all living vegetation in favor of concrete, literally, representations of trees. The split between nature and culture has arrived, as intimated in that small triangular plan at Stourhead. The triangle even survived the transportation of modernist ideas into the American consciousness, although the hard-edged implementation of the early French modernist garden is softened.

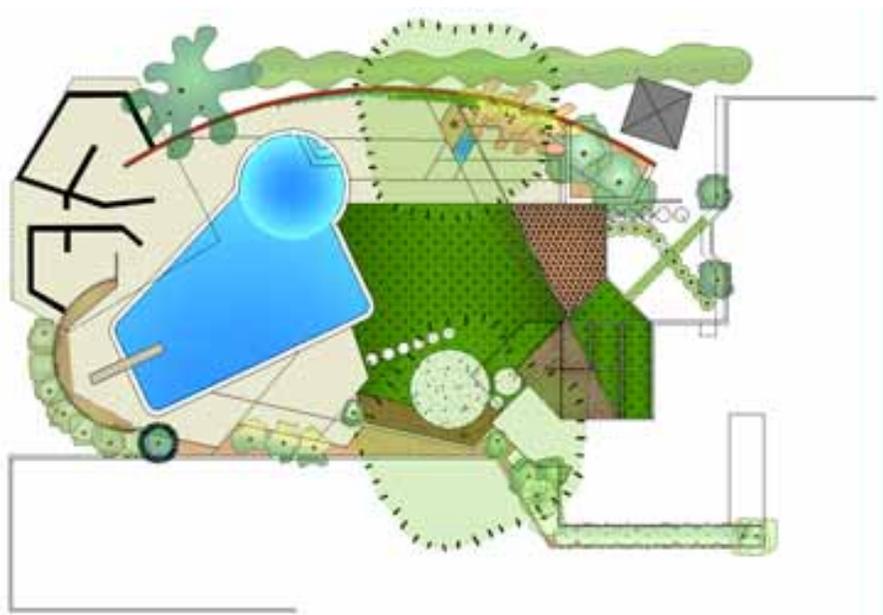
Eckbo's 1948 design is a much more eclectic, dynamic mix of implied and partial geometries than in those first stirrings of modernist landscape architecture, partly due to the progression of design ideas over time and partly due to the translation of design ideas between two different cultural languages.

Some twenty-plus years passed between the 1925 Paris Exposition that first brought the modernist garden to public attention and the Goldstone garden. It is my observation that design tends to progress from simple to more complex as inspiration builds from one design to another to another until something breaks the chain and a new process begins. Two examples that illustrate this is the progression from Renaissance to Mannerist and from Baroque to Rococo. Although neither Renaissance nor Baroque gardens may be termed simple to any degree, Mannerist and Rococo gardens are stylistically more complex than their predecessors. The natural process, then, of taking inspiration from work that has gone before results in design often progressing from the simpler to the more complex. But this is only part of the explanation.

The other major contributing factor to the design differences between 1925 France and 1948 America is that design ideas are filtered through the containing culture. Perhaps the eclectic, melting pot of America comes through in the eclectic and dynamic qualities of



**Figure 5-11.** Diagrammatic plan of the Villa Noailles garden, 1927, by Gabriel Guevrekian at Hyeres, France. (Drawing by author.)

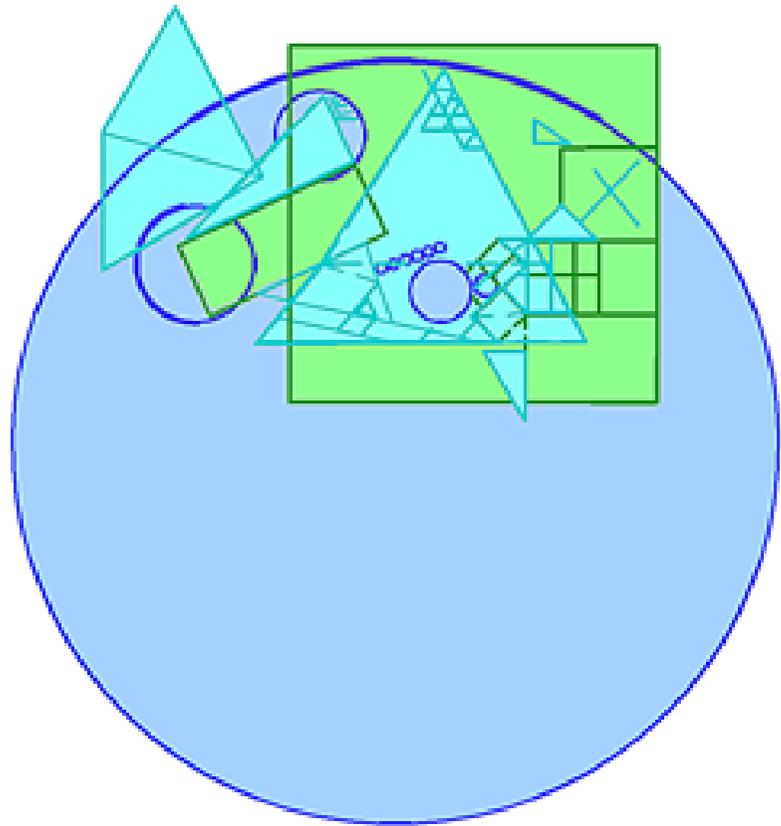


**Figure 5-12.** Goldstone garden by Garrett Eckbo. (Drawing by author.)

Eckbo's design. Certainly his plan for the Goldstone garden appears to be a melange of acute and obtuse angles with strong circles as well as the right angles of the swimming pool. Certainly it is a study in contrasts. It is much more than that, however. It is also a study of hidden conflicts between conscious and unconscious attitudes. The synthesis created from an inventory of all of the elements in Eckbo's plan tell a more complete story.

### Modernist pattern

The synthesis of the Goldstone garden's elements, Figure 5-13, shows a clearly-formed triangle in the approximate center of the figure. It is large and is accompanied by several smaller triangles and diamond shapes. As established earlier in this study, this represents conflict, and its location relates that conflict to nature. There are mitigating interpretations, however. Yes, the triangle is large, meaning that the conflict is important, and, yes, it

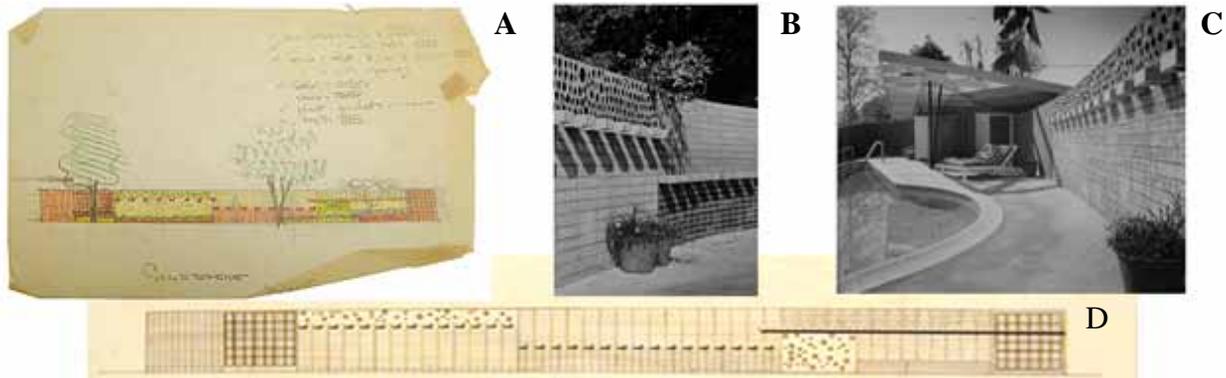


**Figure 5-13.** Goldstone synthesis. (Drawing by author.)

is obviously related to nature. But the square's position is stable and relatively large; the circle's size does not overwhelm it; and the square projects slightly beyond the circle's boundary. This implies that some elements of the natural world may be independently perceived apart from a view that abstracts nature into something less than it is. Perhaps this infers that some aspects of the physical world are being dealt with in a real way. Eckbo's writing and his later attention to environmental issues support this interpretation. The rotation of three squares also hint at the possibility of change

in attitudes toward the physical.

Circles and therefore ideas are the most important elements in the Goldstone synthesis. The largest circle originates in the curve of the back wall, Figure 5-14. This wall is the three-dimensional focal point of the garden and the organizing element of the design in plan view. The conscious boldness of the wall as a design idea reflects the unconscious importance of ideas in Eckbo's world.



**Figure 5-14.** Eckbo's wall for the Goldstone garden. **A)** Notated elevation on yellow trace paper. **B)** Close-up of the wall. **C)** Wall with pool house and pool. **D)** Elevation of wall. University of California at Berkeley Design Archives. (Photographs by author.)

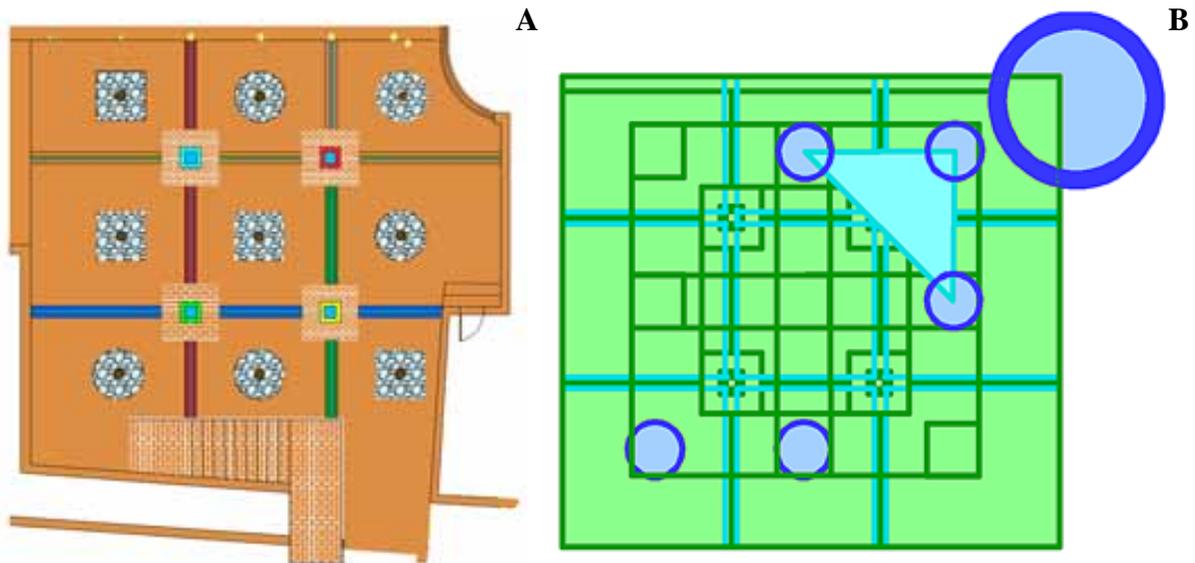
The synthesis of Eckbo's design is a study in contrasts where the physical world is concerned. Attitudes toward nature are stable but conflicted and at the same time in motion with the possibility of reality in some aspects. There are no such ambiguities in Martha Schwartz's attitude toward nature.

### **Martha Schwartz's Attitudes**

Schwartz is unequivocally uninterested in the reality of nature as wilderness. It has no relevance for her nor, she believes, for most Americans. Since the wilderness is an integral part of the concrete world of nature as defined by Jung, her indifference to nature in terms of undeveloped wild landscape carries over into the entire physical world. Schwartz has explicitly stated that she is excited by the world of ideas, as discussed in Chapter Four. The corollary to this is that her interest in the physical is as it supports and implements her designs, which are based in ideas.

Despite this, or because of it, her designs are most often executed on a gridded, horizontal ground plane and are often composed of a series of squares, as in the Bagel garden and the Dickenson garden, Figure 5-15, A. This extensive use of squares, symbolic of the whole of nature, by someone whose psychological involvement in the physical world is often limited to its use as it supports her design ideas, represents a compensatory projection. By this, I mean that when aspects of reality are

neglected, such rejected elements become unconscious. Unconscious aspects that should be conscious are then projected onto objects. It is a compensating mechanism in which the mind



**Figure 5-15.** Dickenson garden by Martha Schwartz. **A)** Plan. **B)** Synthesis. (Drawings by author.)

attempts to bring unconscious contents into consciousness, where they belong. This is also symbolized by the triangle formed by the three circles in the upper right of the Dickenson garden. The psychological meaning of the triangle is discussed in Chapter Four, when it first appeared in the Stourhead garden's design. In this case, both the squares, as a projection of unconscious elements that are consciously rejected, and the triangle composed of floating circles both reference Schwartz's rejection of certain aspects of nature.

### **Schwartz's pattern**

The Dickenson garden is also a series of overlapping mandalas, or it may be seen as a single mandala with doubled crossing lines/axes, revealed by the synthesis shown in Figure 5-15, B. Either way, this garden is a composition of squares, and the mandalas are of squares within squares, more evidence of compensation. Interestingly, the five circular elements in the Dickenson design anchor the corners of four individual mandalas or create the outline of the largest inside square, just as ideas create and contain Schwartz's perceived world and her conscious view of nature.

When squares are not the major element in Schwartz's composition, circles frequently are -- and not just a single circle. Designs that feature circles as the most prominent component usually

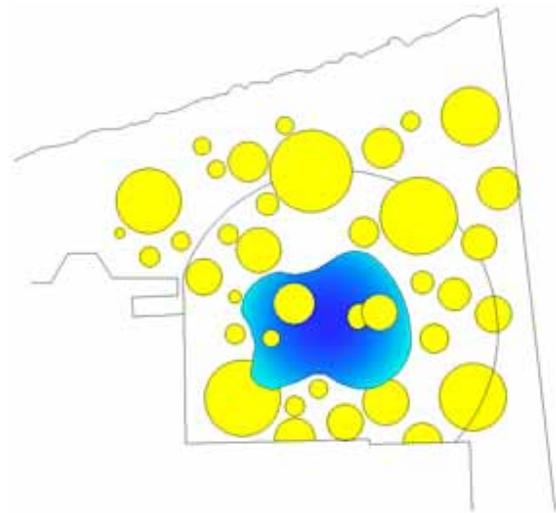
contain multiple, colorful, floating circles, as in the original plan for the HUD Plaza Improvements in Washington, D. C., in 1998 and the reception area for the Littman wedding, Figure 5-16. In cases like these, the circles are a tangible display of Schwartz's investment in the exciting, colorful world of endless ideas. By floating them over the ground plane, they visually embody the psychological disconnect between nature and culture that is part of Schwartz's psyche. The ground plane may also be organized by a point grid of small circular objects, as in the Rio Shopping Center, again reflecting the organizing power of Schwartz's ideas.

Schwartz's design language reveals an interesting interplay of conscious and unconscious imperatives. Consciously ideas are all-important, and they are prominent in her designs, from floating circles to organizing point grids. Unconsciously, nature is all-important, and the compensatory projection of squares into her design work is evidence of this. They range from a rectangular ground plane organized by point grids to squares within squares or square mandalas.

Schwartz's attitudes toward nature and culture are thus revealed within the Dickenson garden plan, just as attitudes toward nature and culture are displayed within the plans of the previous six gardens plans. This ends the summary of psychological interpretations. A discussion of the findings from the inventories and analyses in Chapter Four are discussed next.

### Discussion of Findings

In order to investigate whether or not a mandala pattern(s) is contained within each garden's plan; circles, squares/rectangles, and crossing axes or lines were isolated from each plan. They were then combined into a synthesis figure that was interpreted psychologically using the symbolic meanings that have accrued over time to these shapes according to the principles of Jungian theory. The following sections take a global look at the findings of Chapter Four by grouping like elements

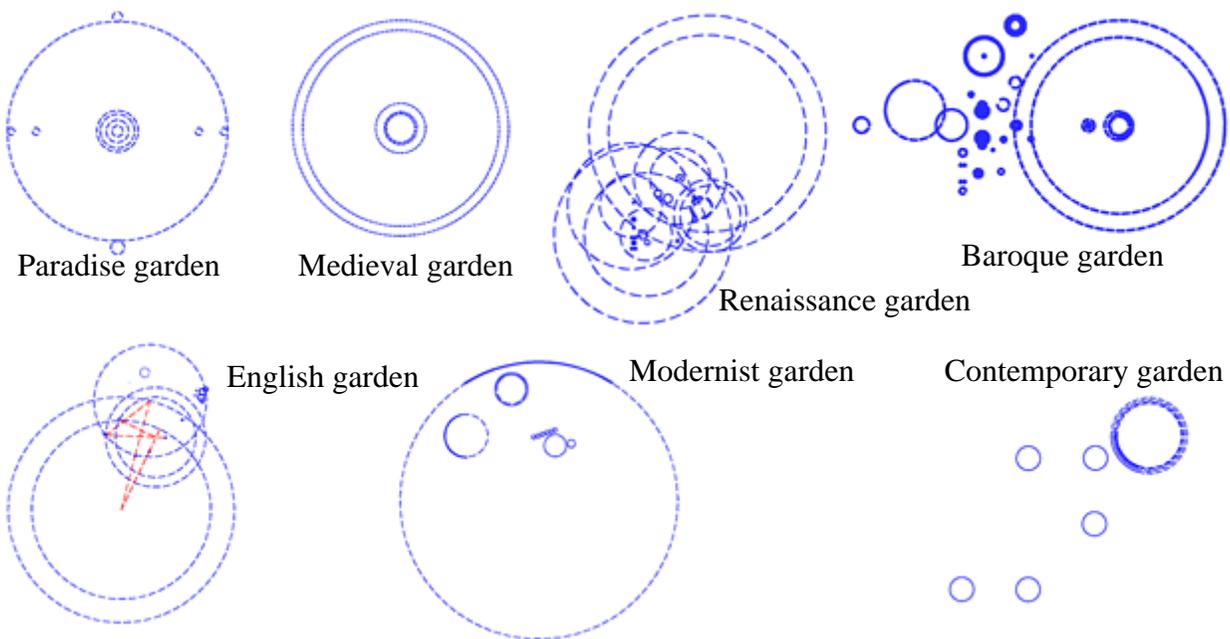


**Figure 5-16.** Painted yellow circles at the Littman wedding by Martha Schwartz. (Drawing by author.)

into a single figure. This enables a clearer perception of changes in attitudes toward nature and culture over time and lets each inventoried element, each synthesis, and all extracted mandalas be compared and contrasted with the same element in other gardens.

### Circles

Circles are very much in evidence in all of the gardens, Figure 5-17, and all contain more than one, indicating the obvious importance of the abstract world of the mind/psyche to each designer and to the containing society. Looking at all of the circular inventories together makes the observations in Chapter Four even more apparent, particularly the change that occurs when humanity's orientation



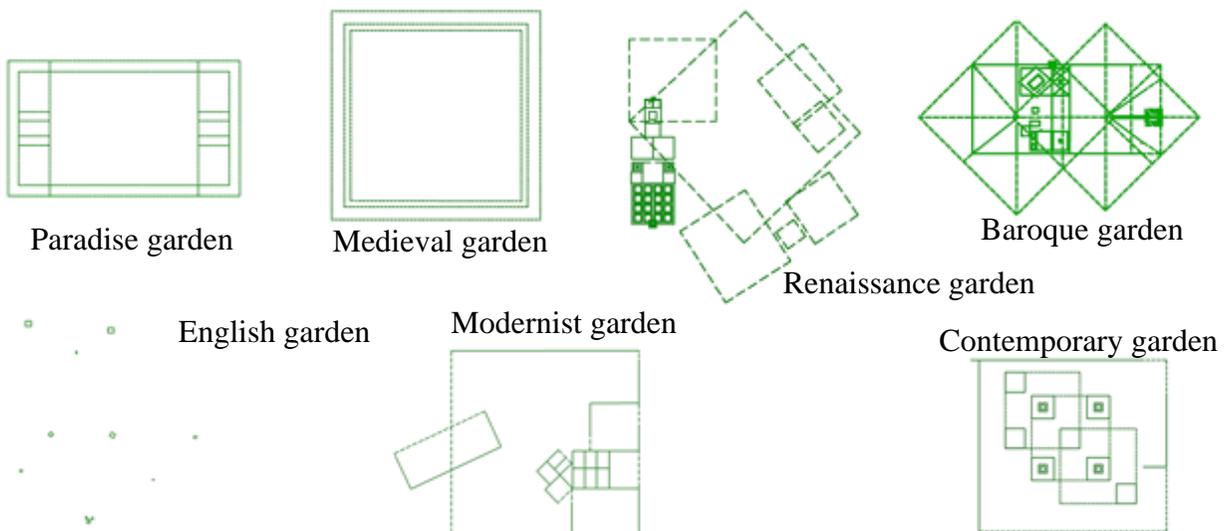
**Figure 5-17.** Isolated circles from the inventories of the seven gardens in this study. (Drawings by author.)

transitions from vertical to horizontal. The multiplication of ideas and the complexity of their interactions immediately increase, as is evident in the diagram of the Renaissance garden. As befitting such a paradigmatic shift, Renaissance ideas are also markedly in flux, dynamically swirling around each other. The complexity, and to a lesser extent the interaction, among ideas continues until the contemporary garden by Martha Schwartz. Here there is no interaction; there are ideas that have no connection to each other and that float around as if they are bubbles in the air. This reinforces what Schwartz herself says about the excitement of ideas, implying a non-hierarchical investment in any and all ideas, with the idea of the moment (larger overlaid circles in the upper right) taking

temporary precedence over others. Notice that before the Schwartz garden, there appear to be one or two ideas that are more prominent than others. This implies that these societies have common ideas that unite them in that time and place, although I have no proof of this unless it is the fact that contemporary society is often termed multi-centered or multi-layered, in contrast to societies of the past. (Barone, 1995) When seen *in toto* these diagrams of circular elements in the seven garden plans support the psychological interpretations in Chapter Four as summarized earlier in this chapter.

## Squares

The isolated squares shown in Figure 5-18 display some of the same characteristics that circular elements do. The most obvious is the dynamic quality of the rotating squares during the Renaissance, after the paradigmatic shift to a horizontal orientation. Rotated squares continue to appear in all of the gardens until Schwartz's Contemporary design, implying that attitudes toward nature are in motion and are continuing to evolve. As discussed in Chapter Four, this implication seems true in all cases. However, some eras are more stable in their attitude toward the concrete world than others.



**Figure 5-18.** Isolated squares and rectilinear elements from the seven gardens included in this study. (Drawings by author.)

The Baroque garden, for example, contains large overlapping squares, indicating that the physical world is of increased importance here, which we know is true due to the scientific breakthroughs that are made during this period. Stable attitudes as well as increased movement is

indicated in the modernist garden -- stability because of the size of the largest square and the fact that it contains many smaller squares that are also stable in their orientation, unstable because the rotated square is doubled and because they are also larger than any of the smaller squares. Thus some aspects of Eckbo's attitude toward nature are stable; others are not.

Finally, the greatest difference among the inventoried squares is between the English inventory and the Contemporary inventory. Essentially the English attitude toward the physical world is entirely manifested by traditional mandala plans in the architectural follies; there are no squares other than in these plans. Another way to say it might be that nature is omitted from those elements that express current attitudes. Juxtaposed to the inventory of nonexistent squares in the English garden is the inventory of multiple squares in the Contemporary garden. Here it appears that attitudes toward the physical world are as set as the cast concrete forms Schwartz sometimes floats over her regimented ground plane. The rigidity of their arrangement indicates these attitudes are unlikely to change. This deduction is reinforced by the fact that most corners of three overlapping squares are set with more squares. The unyielding attitudes indicated by Schwartz's regimented grid implies a basic attitude toward nature that is as unrealistic, in its own way, as the English attitude. English nature is relevant in their society but idealized to an extreme; Schwartz's nature is irrelevant and is rejected outright in her embrace of ideas.

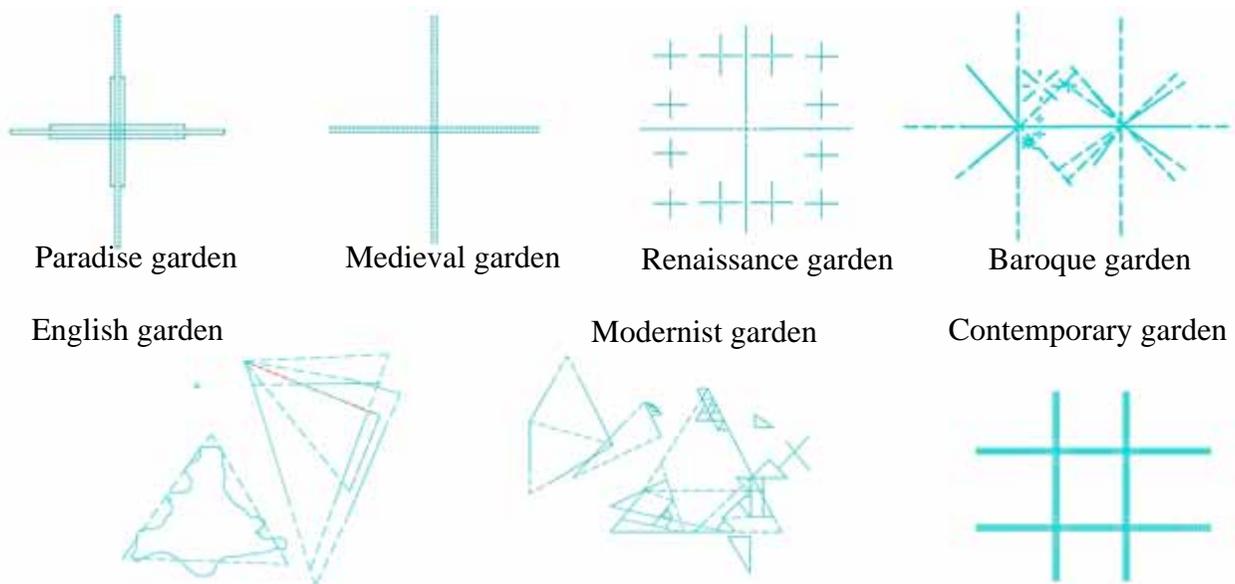
The inclusion of all diagrammed squares together in one figure enables a perception of attitudinal changes over time that supports the psychological interpretations in Chapter Four and the summaries at the beginning of this chapter. Next, the diagrams on crossing lines are considered.

### **Quartering Axes**

The presence or not of quartering axes and/or crossing lines is an important consideration in this set of diagrams, Figure 5-19. Also important is their orientation or stability when present. As an indicator of wholeness, their manifestation in a stable, traditional pattern implies the honoring of both nature and culture in a society. This is true for the Paradise and Medieval periods, as well as the ancient Roman era that is the source for the Renaissance parterre's axes. The absence of quartering lines or their deviation from a traditional pattern, which includes a stable orientation, is seen as

implying changing attitudes or a conflict between nature and culture, depending on whether the axes/lines are rotated or absent.

The Renaissance garden is counted among those that have no quartering axes because they are found only in the garden, which is historically derived and which is a very small portion of the overall design. This group also includes the English and the Modernist gardens. The Renaissance garden indicates conflict because, as seen in the previous two sets of diagrams, attitudes toward nature and culture are in motion, both in relation to each other and within themselves. This implies an uncertainty in the direction that attitudes will take as well as the possibility of conflict among different possibilities. The Renaissance is a period of great growth and change, and a period such as this is not quiet and passive; neither is a period in which a major paradigm shift occurs. It would, therefore, be unusual if the Renaissance plan did not show conflict. As for English and Modernist attitudes, it is clear from earlier discussions that attitudes toward nature and culture are out of balance, with ideas of overriding importance in both of these periods. The triangles found in these gardens also reflect conflict and is a significant psychological marker, as discussed in Chapter Four.



**Figure 5-19.** Isolated axes and triangular elements from the seven gardens included in this study. (Drawings by author.)

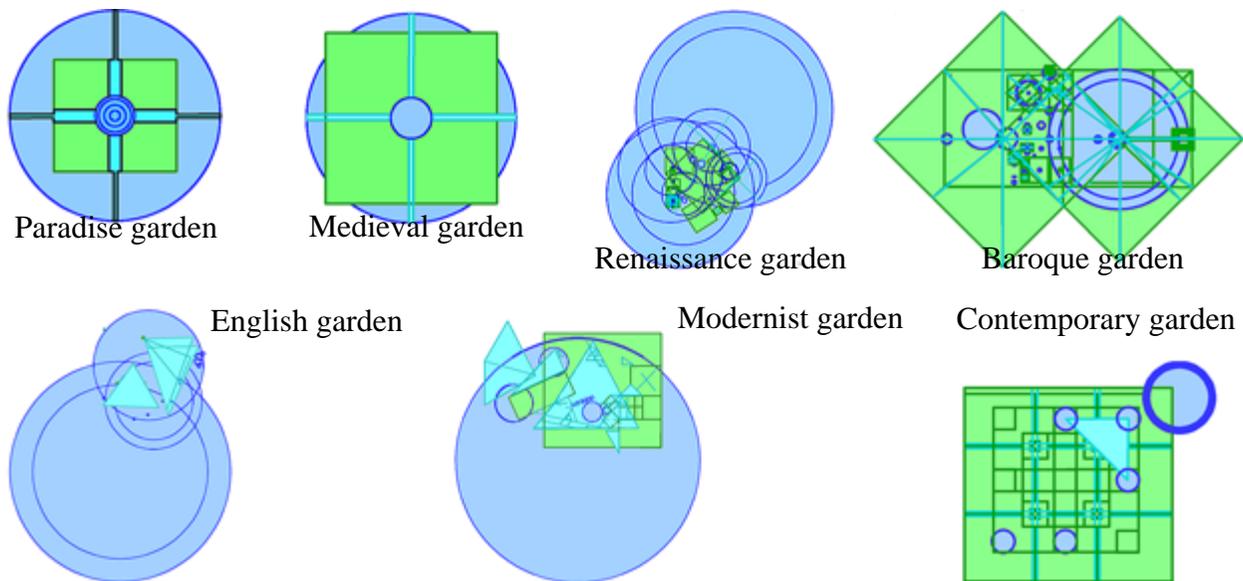
In the Baroque and Contemporary gardens, the axes deviate from the stable norm, indicating at the least that attitudes toward nature and culture are non-traditional. This is true in both cases.

Many Baroque axes are rotated as well as multiplied, increasing the importance of their inherent symbolism. When this factor is coupled with the tripling and overlaying of squares within its design, the connection must be made that it is in attitudes toward nature that the changes are occurring. Psychological interpretations support this deduction. Schwartz's contemporary garden has none of the motion implied in the Baroque. As with its squares, the axes here are rigidly fixed into place, implying a non-hierarchical nine-square grid. Such a grid negates the four-fold balance inherent in traditional axes. A nine-square grid is divisible only by three, and three implies triangulation, leading back to Schwartz's rejection of nature and its relevance to her world.

A global review of the syntheses from each garden's inventory is next.

### Syntheses

The synthesis of each garden's overlaid elements is the basis for the psychological interpretations in Chapter Four that are based in analytical psychology, founded by Carl Gustaf Jung. These are summarized at the beginning of this chapter in order to focus on them as a whole in this section. When examined as a group, Figure 5-20, they tell a story of changing attitudes toward nature



**Figure 5-20.** Syntheses from the seven gardens included in this study. (Drawings by author.)

and culture over time. The first six syntheses, each in its own way, hints at changes that are manifested within the gardens of the next period. Sufficient time has thus passed for an historical perspective to develop. The seventh synthesis, which is for the Contemporary garden, may also hint

at future attitudes but immersion within the culture does not allow for sufficient distance in order to see these, if present. The elements that provide clues to attitudinal changes following each period are briefly summarized in the bulleted list below.

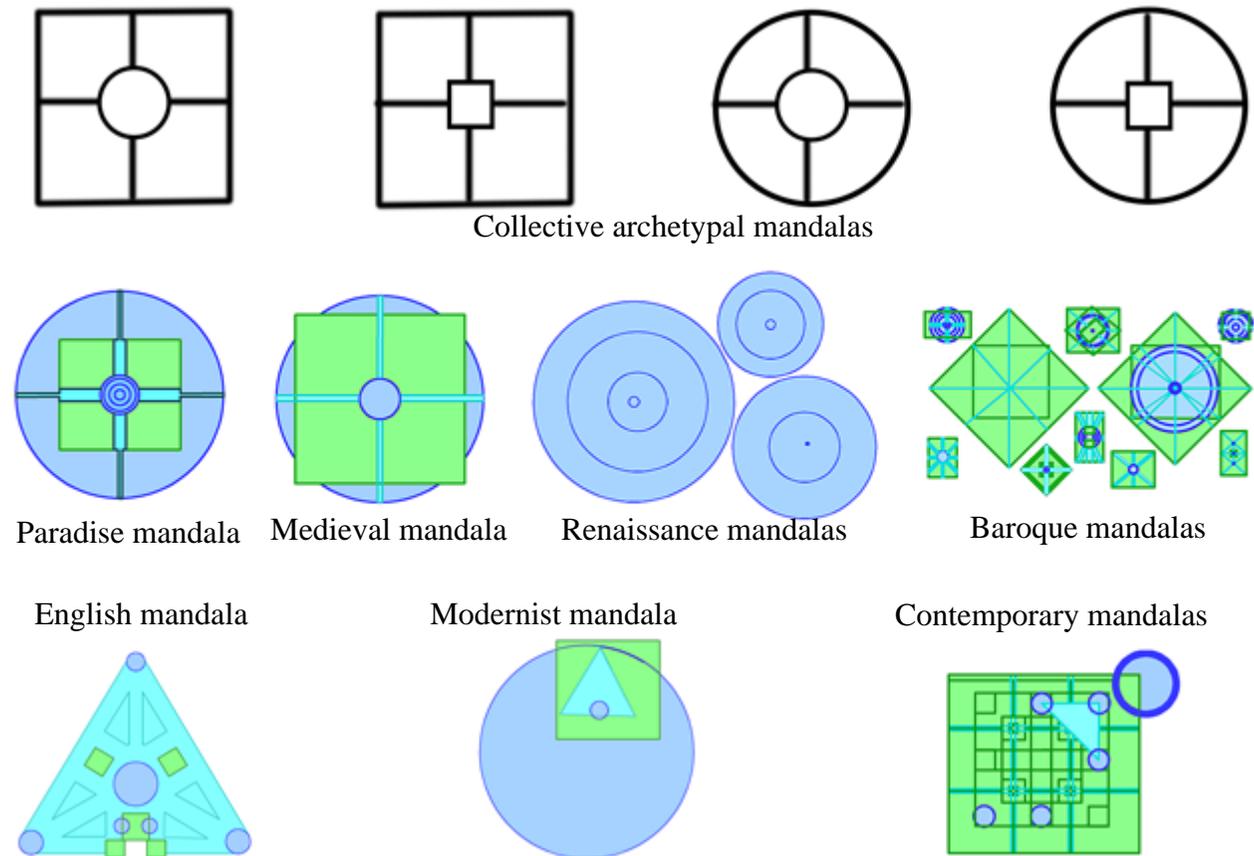
- The Paradise pattern has crossing axes that widen as they encounter nature's field. This has the effect of emphasizing the ground plane of the square, thus hinting at nature's increased importance during the Middle Ages to come.
- In the Medieval synthesis the square representing nature grows larger, more important, almost overtaking the border of the circle representing culture. This hints at the paradigm shift that results from scientific discoveries that change humanity's perception of their physical world and their place in it.
- The paradigm shift from a vertical to a horizontal orientation has occurred, as nature assumes both more importance as the generator of Renaissance ideas and, at the same time, is enclosed within, thus controlled by, these same ideas. Culture's circles and nature's squares are now multiple as they swirl and rotate around one another in the Renaissance synthesis, indicating that attitudes are in flux and that more changes are in the future.
- These changes are confirmed in a Baroque synthesis that features dynamically rotated natures that are ascendent over culture's circles. Skewed axes and teetering squares indicate that attitudes will continue to change, particularly with respect to nature.
- The English garden displays a nature that is confined within the plans of architectural follies that are features of the pleasure garden circuit. Such plans reference the past, a great change from Baroque attitudes toward nature that are grounded in the present. The reality of nature is thus omitted from English consideration. This psychic conflict is manifested by triangles within the English synthesis. Such a deep-seated conflict between nature and culture is not easily overcome and thus the triangles are also an omen of continuing conflict between these two halves of humanity's cosmos.
- The many triangles within the Modernist synthesis bear out this prognosis. Psychic conflict is an inherent part of the Modernist Movement, which is the result of a sundering of connections between nature and culture. This is confirmed in Eckbo's Modernist garden plan by the many small triangles as well as the large triangular shape within nature's plane revealed in the synthesis.
- This conflicted nature carries into Schwartz's Contemporary garden where it becomes a rigidly-defined series of gridded squares. The squares are a compensatory projection for a rejected nature that has been pushed into the unconscious. In an attempt to re-assimilate the rejected aspects of nature, the mind projects its symbol, the square, onto the conscious world in an attempt to assimilate such unconscious contents.

The syntheses created by overlaying individual mandala elements thus produce figures that contain not only the psychological attitudes toward nature and culture of their time and place in history but also, as art often does, contains seeds that hint at possible changes to come.

The final discussion of findings in this study is the comparison of archetypal mandala patterns with mandalas extracted from each garden's synthesis.

## Archetypal and Culturally-Specific Mandalas

When mandala patterns extracted from the syntheses of selected gardens are compared to the abstracted patterns of the originating collective archetype, progressive changes in attitudes toward nature and culture over time are clear, as shown in Figure 5-21. They confirm previous interpretations and expose transformations that occur when the archetype of wholeness is expressed within a particular society.



**Figure 5-21.** Collective archetypal mandalas and mandalas extracted from the syntheses of the seven gardens in this study. (Drawings by author.)

Paradise and Medieval garden designs are themselves mandalas. They resemble the originating archetype's abstracted pattern more closely than any other period's because their attitudes are closest to those that existed in the eons of this archetype's collective imprinting. Renaissance mandalas are circles within circles, a traditional form if there were crossing axes, but here reflecting the importance of ideas during this period and, without the axes, also conveying attitudes that are not stabilized. Most of the Baroque mandalas are squares that are either rotated or that contain rotated

axes, both of which imply motion and instability in attitudes, and this is borne out by changes manifested in the English landscape garden. Please note that mandala plans referencing the past do not manifest the attitudes of eighteenth century England and are therefore not included here. The English mandala is three-sided with three axes, and its shape relates to triangles contained within the overall plan of Stourhead, making it a reflection of current attitudes. The triangle's conflicted shape is anchored on each corner by circles/culture, and constrained and controlled within its field are squares/nature. Nature's squares also flank the doorway into the figure, where the central space is a larger circle. In other words, nature is the doorway through which this conflict is entered, and ideas focus the conflict. This conflict came into full-blown fruition with the Modernist Movement that also visually implemented the disconnect between nature and culture, first in art, then in architecture and landscape architecture. It continues to linger in the American unconscious in 1948, reflected in the mandala in the Modernist garden that appears to be in the process of deconstructing. It is also reflected in the large triangle within the field of nature's square.

The last three sets of mandalas; those from the Baroque, English, and Modernist periods; show the greatest differences from the originating collective pattern, implying that the attitudes they embody are the farthest from the attitudes that created the collective impression. The Contemporary garden is another example of a mandala plan, as are the Paradise and Medieval gardens. However, the details of its expression are very different from the earlier two, as they should be, because contemporary America is very different from Islamic Spain or the European Dark Ages. The doubled axes indicate the importance of wholeness in this age; at the same time their doubling creates a nine-square grid that both dissipates the power of the four-fold meaning of quartering axes/lines and essentially negates its meaning. Wholeness is therefore contraindicated by this manifestation. The square mandala also appears to grow out of the circles-only mandala in the upper right, reflecting the overall importance of generating ideas to Schwartz.

### **Conclusions**

The examination of circles, squares, and quartering or crossing axes/lines as separate entities apart from their synthesis reinforces and concurs with earlier findings in Chapter Four and as summarized at the beginning of this chapter. Psychological interpretations originally deduced from

each garden's synthesis individually are thus further illuminated and supported by looking at each type of diagram with others of its kind. The validity of findings in Chapter Four is also supported when syntheses and extracted mandalas are reviewed and compared as a group. This study is therefore able to answer and validate the answers to the questions that began this research.

### **Question One**

- **Is there a mandala pattern(s) contained within each garden's plan?** What circles, squares/rectangles, and quartered or crossing lines are revealed by diagramming each element separately? When combined into a synthesis figure, what pattern(s) do they form? How does the expressed mandala pattern that is extracted from a synthesis differ from a collective and abstracted, archetypal mandala pattern?

Yes, Figure 5-21 groups the expressed mandalas found within each garden's plan into one figure. Supporting these are the diagrams of circles, squares, and crossing lines or axes shown as individual groups in Figures 5-17, 5-18, and 5-19. The patterns formed by their syntheses are also shown as a group in Figure 5-20. All of these display differences from a collective and abstracted archetypal mandala pattern with the exception of the Paradise pattern. These differences are detailed earlier in this chapter and relate to differences in attitudes toward nature and culture in each time and place.

When comparing all of the syntheses together, another aspect of the analysis is seen.

### **Question Two**

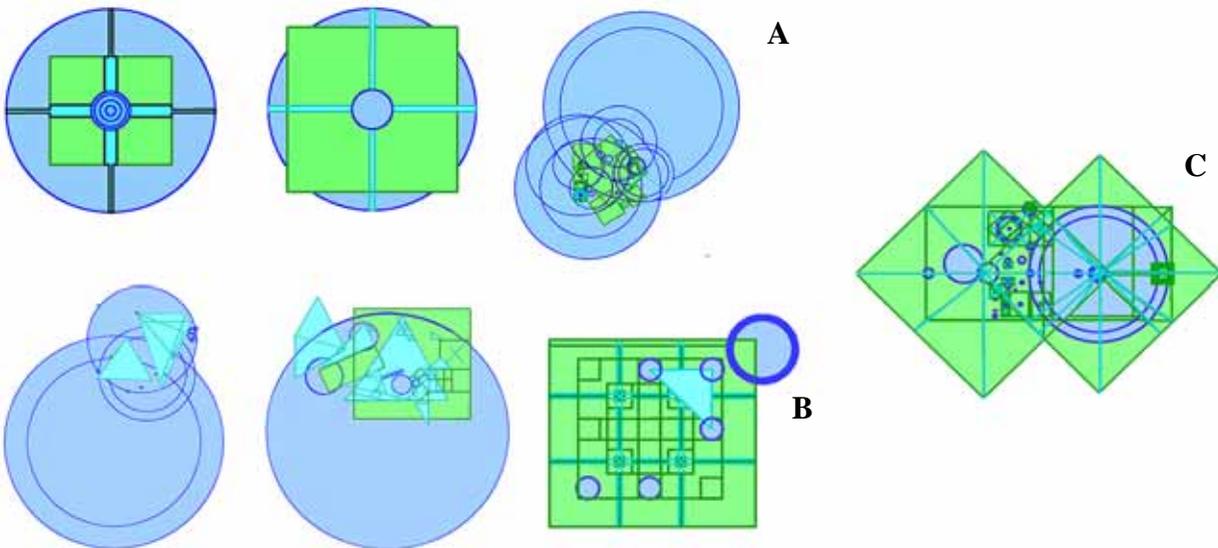
- **What does a Jungian interpretation of the extracted mandala components underlying each garden's plan reveal psychologically?** What is implied concerning the psychological relationship with the cultural or spiritual side of human existence? What is implied about the psychological relationship with nature or the concrete half of human existence?

The results of a Jungian interpretation of individual elements, syntheses of these elements, and extracted mandalas are detailed in Chapter Four and earlier in this chapter. Such interpretations reveal agreement between what we know of each time and place and/or designer and what is psychologically indicated by the relationships, interactions, and placements of contained geometries. This study thus finds that when gardens are interpreted using symbolic meanings according to Jungian psychological principles, attitudes toward nature and culture are found to be unconsciously expressed within garden designs regardless of conscious attitudes or design intentions. Contained within the mandala's archetypal pattern, then, is the inherent message that nature and culture are the

two halves of human existence, and both are necessary for human life. Attitudes toward nature and culture are manifested in the creative expressions of artists. Landscape architecture, as a meld of art and science, illustrates this expression over time in the garden plans selected for this study when examined according to the filters of this study.

When the abstract and the physical are both honored, this study finds that a design reflects this, as in the Paradise garden mandala. When one is de-valued or over-valued an imbalance is created within the human psyche that is also expressed in the artistic works of its time and place, as in the gardens containing triangular shapes. Within these gardens as a whole is thus displayed a progression in attitudes from an approach that includes both nature and culture to one that reveals a sharp division between the two. This study appears to validate the supposition, then, that mandalas are manifested in all times and places. It also clearly reveals that, within the precepts of this study and within the seven selected garden plans, changes in psychological attitudes toward nature and culture occur over time, in keeping with historic and present-day records of the containing societies.

Additional correlations also become apparent. The syntheses may be further grouped into two distinct sets, those before the Baroque period and those after the Baroque period, with the Baroque synthesis mediating between the two. The syntheses in the first group reveal gardens based in societies in which culture dominates, Figure 5-22, A; the syntheses in the second group reveal



**Figure 5-22.** Correlations among garden syntheses. **A)** Idea-dominated designs in pre-Baroque garden syntheses. **B)** Nature-culture conflicts in post-Baroque garden syntheses. **C)** Mediating Baroque synthesis.

gardens based in societies in which a distinct conflict between nature and culture has developed, manifested through triangular elements that are clearly part of these three designs, Figure 5-22, B.

The Baroque synthesis; Figure 5-22, C; mediates between them in two ways. First, its composition clearly indicates that nature/the concrete is dominant during this era. This is the culmination of the progression from vertical/spiritual to horizontal/physical that is foretold in the Paradise, Medieval, and Renaissance syntheses. This progressive change in orientation is revealed through changes that occur in nature's square(s) from enclosed and controlled in the Paradise synthesis to competing but still subservient in the Medieval synthesis to multiple rotating shapes around which circles/ideas swirl in the Renaissance synthesis. Although culture/ideas dominate in this progression, the increasing importance of nature/the physical over time is revealed. Second, nature's squares, though dominant in the Baroque synthesis, are rotated. Such diamond shapes indicate movement, as discussed in Chapter Four. In this case, attitudes toward nature are in motion; change is indicated; and change is likely to produce conflict. The changes/conflicts they foretell are manifest in the syntheses of the post-Baroque eras. Change occurs immediately after the Baroque period when the physical reality of nature is omitted from society's calculations, creating a psychological conflict symbolized by triangles between what is real and what is honored. Culture becomes everything, as symbolized in the English landscape garden. This is followed by the complete sundering of connections between attitudes toward nature and attitudes toward culture. It is as if one is not affected by the other, and the potential unity between nature and culture is denied. A deep chasm is created between the two halves of our cosmos, made manifest by the triangles in the Modernist garden. Finally in the Contemporary synthesis nature is rigidly-controlled and organized by multiple ideas that float above its ground plane. The subservience of the physical to the abstract is clear, setting up a psychological conflict that is symbolized by the trianglular shape. All of these post-Baroque designs reflect the conflict of great change that is indicated by the rotating diamond-shaped mandalas of the Baroque analysis. The Baroque synthesis is thus seen as both the culmination of attitudes that are progressively displayed in the syntheses of pre-Baroque eras and the prognosticator of great changes that produces conflicts as displayed in the syntheses of post-Baroque eras.

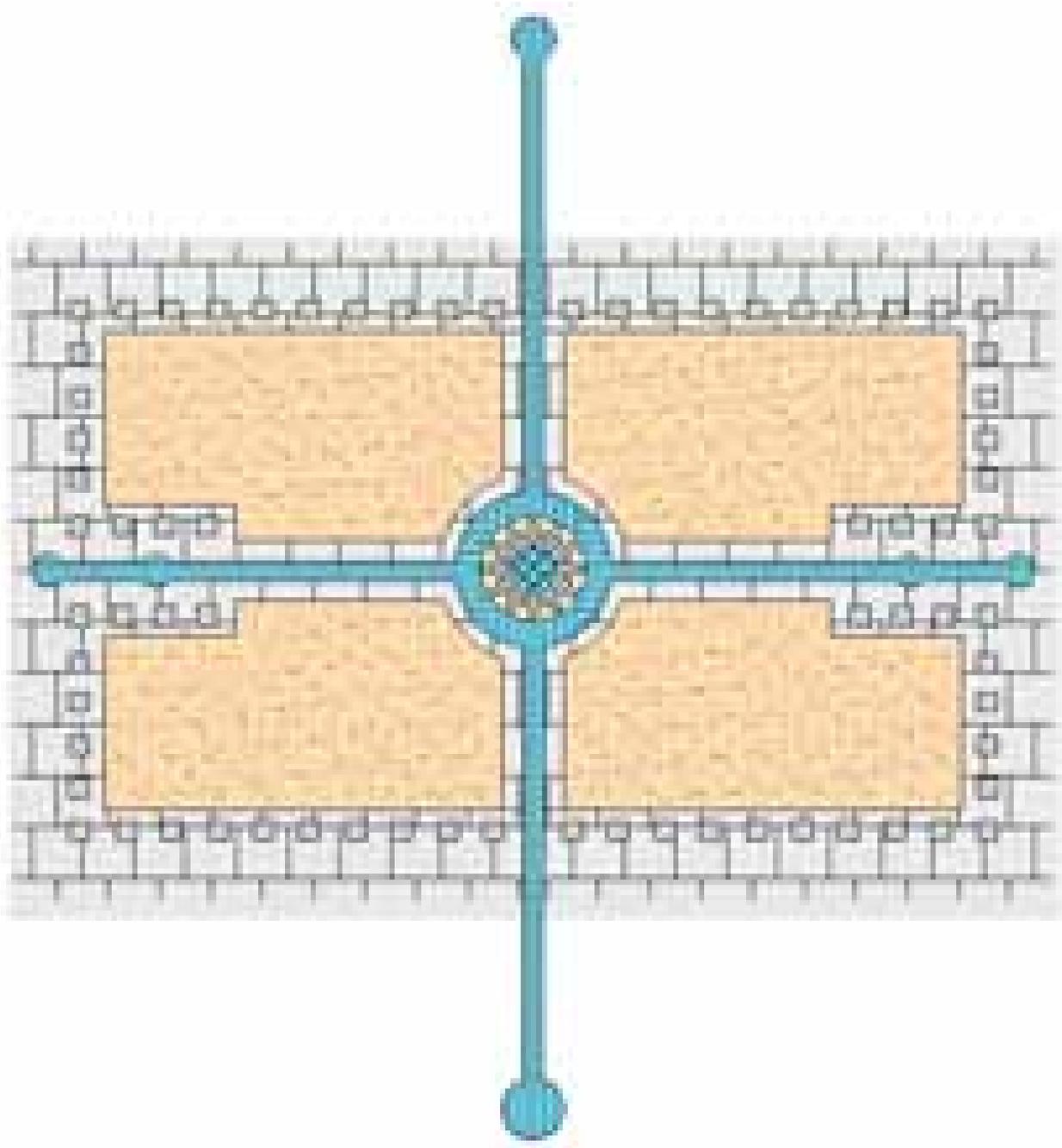
As stated previously, this is one way to interpret patterns derived from garden plans. If another set of filtering principles were applied to the seven analyses, different results might be obtained. This is also the first study, to my knowledge, that has been conducted using the lens of Jungian psychology to examine mandala elements found in selected garden plans through history. Additional research studies are therefore recommended in order to corroborate or modify these first results.

This study concludes with the following words from Jung. This is the truth of the relationship between nature and culture, and this is why this study was undertaken.

“Psyche cannot be totally different from matter, for how otherwise could it move matter? And matter cannot be alien to psyche, for how else could matter produce psyche? Psyche and matter exist in one and the same world, and each partakes of the other, otherwise any reciprocal action would be impossible. If research could only advance far enough, therefore, we should arrive at an ultimate agreement between physical and psychological concepts.” (Jung, 1968, par. 413)

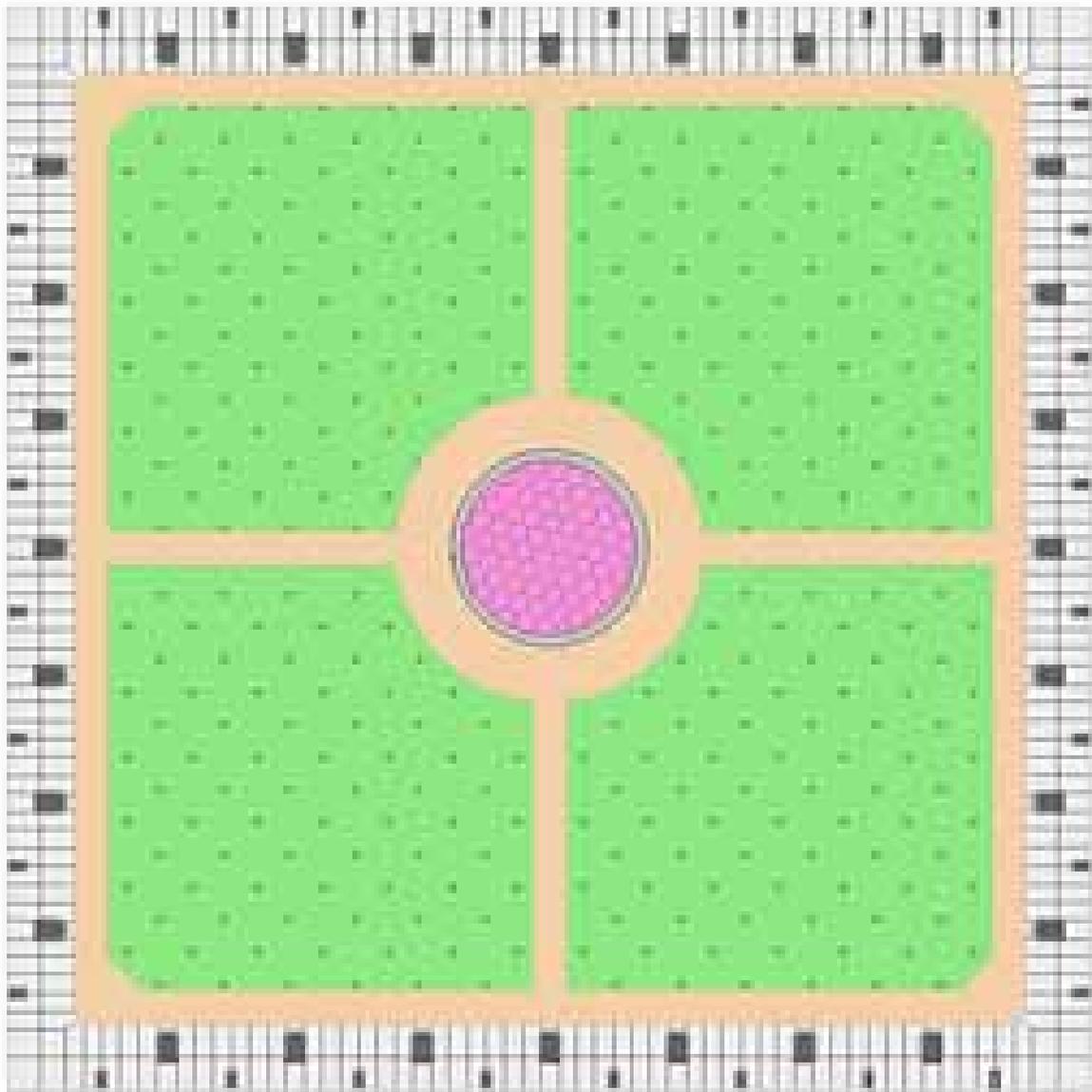
**APPENDIX A  
ENLARGED PLANS OF THE SEVEN GARDENS**

**1. Court of the Lions**



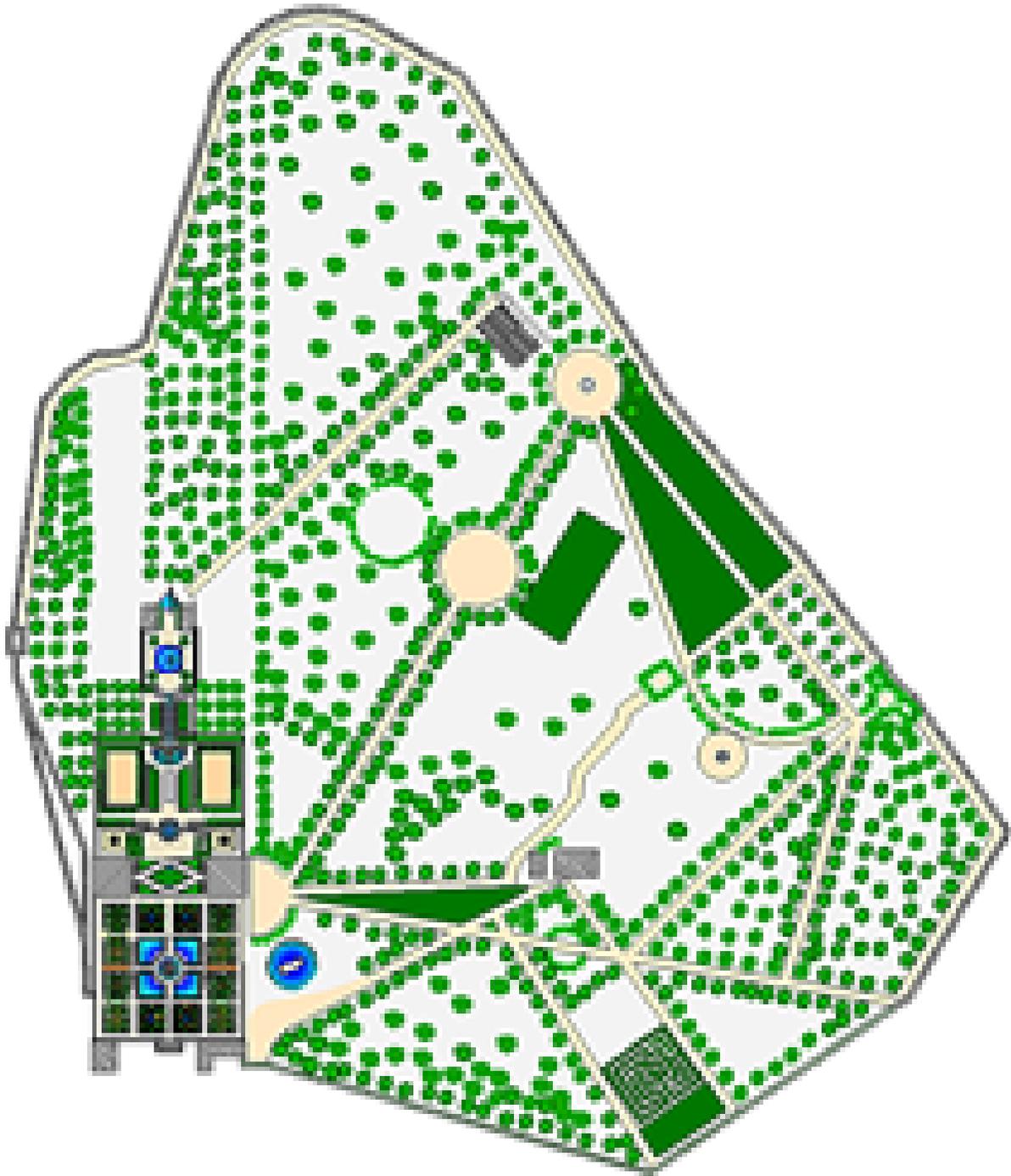
Drawing of the plan for the Court of the Lions is an amalgam of a map of the Alhambra in Brookes (1987), p. 54; and a photograph of the Court of the Lions, also in Brookes, p. 59.

## 2. Cloister at Arles



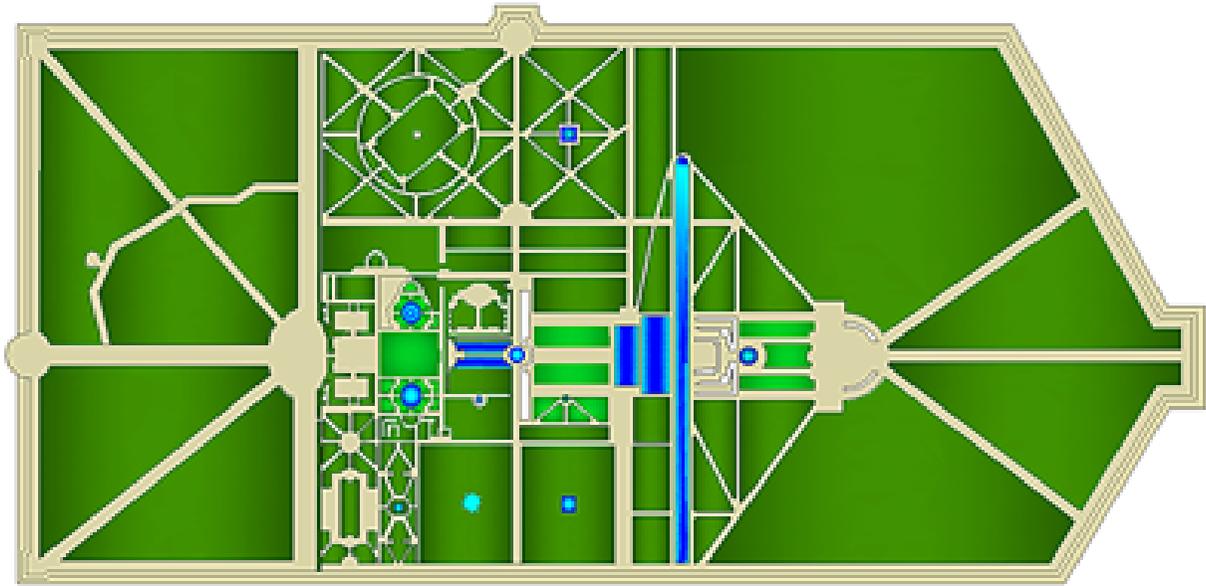
The drawing for the plan of the Cloister at Arles is an amalgam of several photographs. The first is by Jim Steinhart, accessed June 13, 2006, at the following web site: <http://www.planetware.com/picture/arles/st-trophime-cloisters-f-arclstr.htm>. Two photographic sources are from *Wikipedia, The Free Encyclopedia*. One is by Jeremy J. Shapiro accessed June 13, 2006. Another is from Cloister, retrieved June 14, 2006, from <http://en.wikipedia.org/w/index.php?title=Cloister&oldid=86283628>. Travel photographs from [http://www.galenfrysinger.com/saint\\_trophime\\_arles.htm](http://www.galenfrysinger.com/saint_trophime_arles.htm) were also referenced.

### 3. Villa Lante



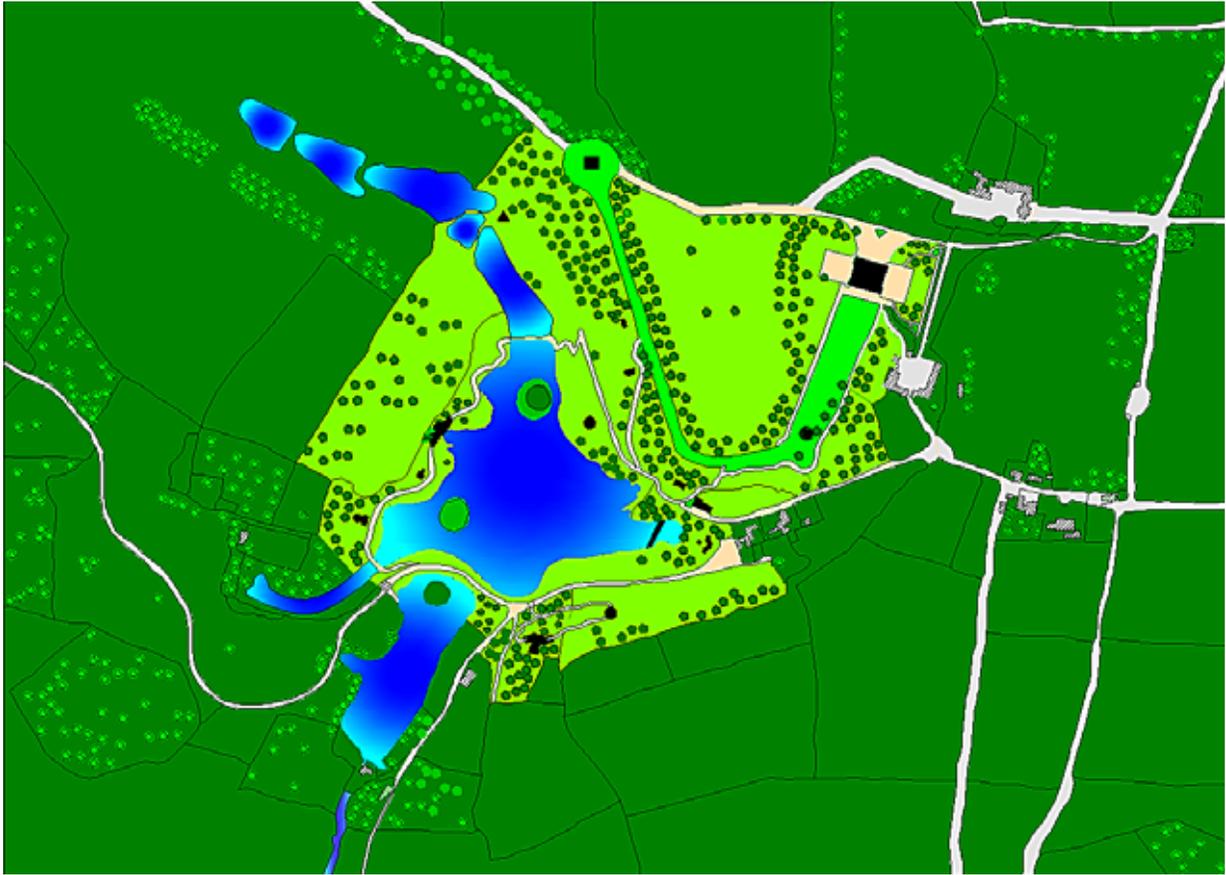
The plan drawing of Villa Lante is taken from Jellicoe & Jellicoe (1995), p. 160; Rogers (2001), p. 144; and Wood, Mitchell, & Turnbull, Jr. (1988), pp. 145 and 146.

#### 4. Vaux-le-Vicomte



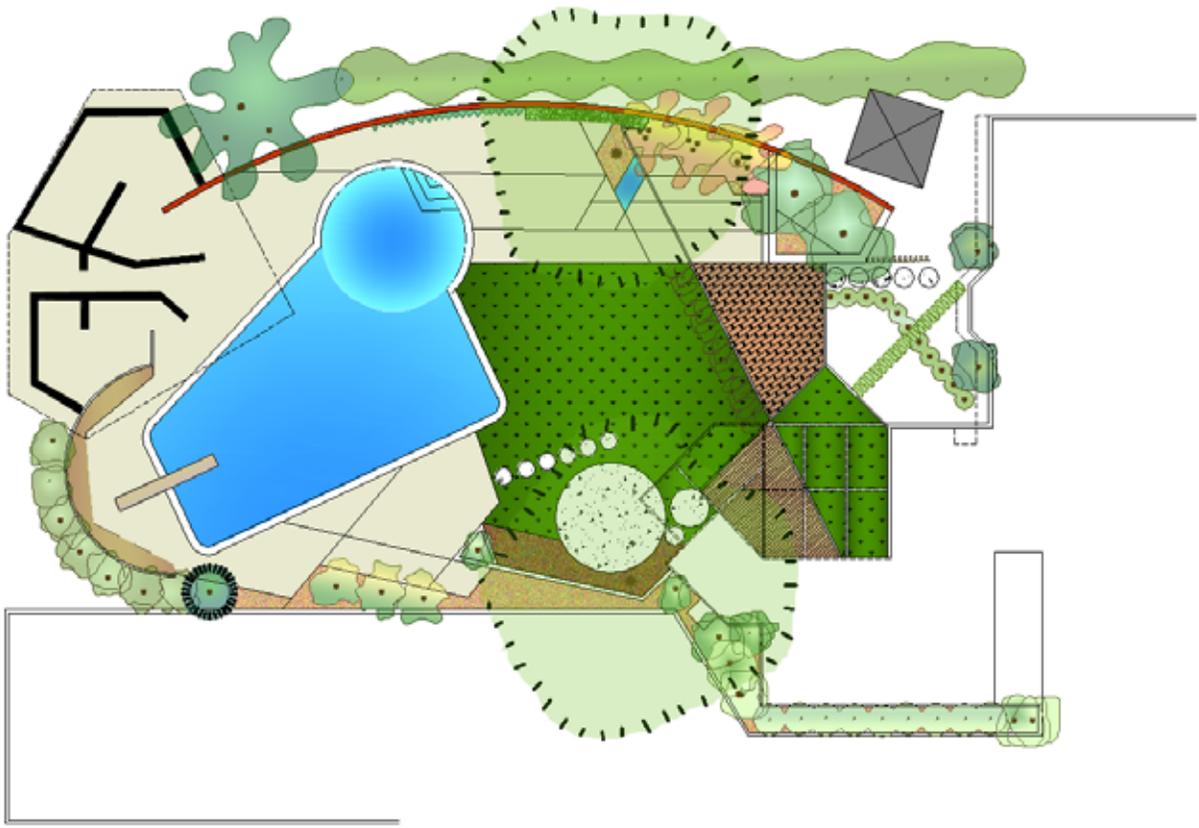
The plan for Vaux-le-Vicomte is taken from two sources: Laurie (1986), p. 37, and Jellicoe & Jellicoe (1995), p. 183.

## 5. Stourhead



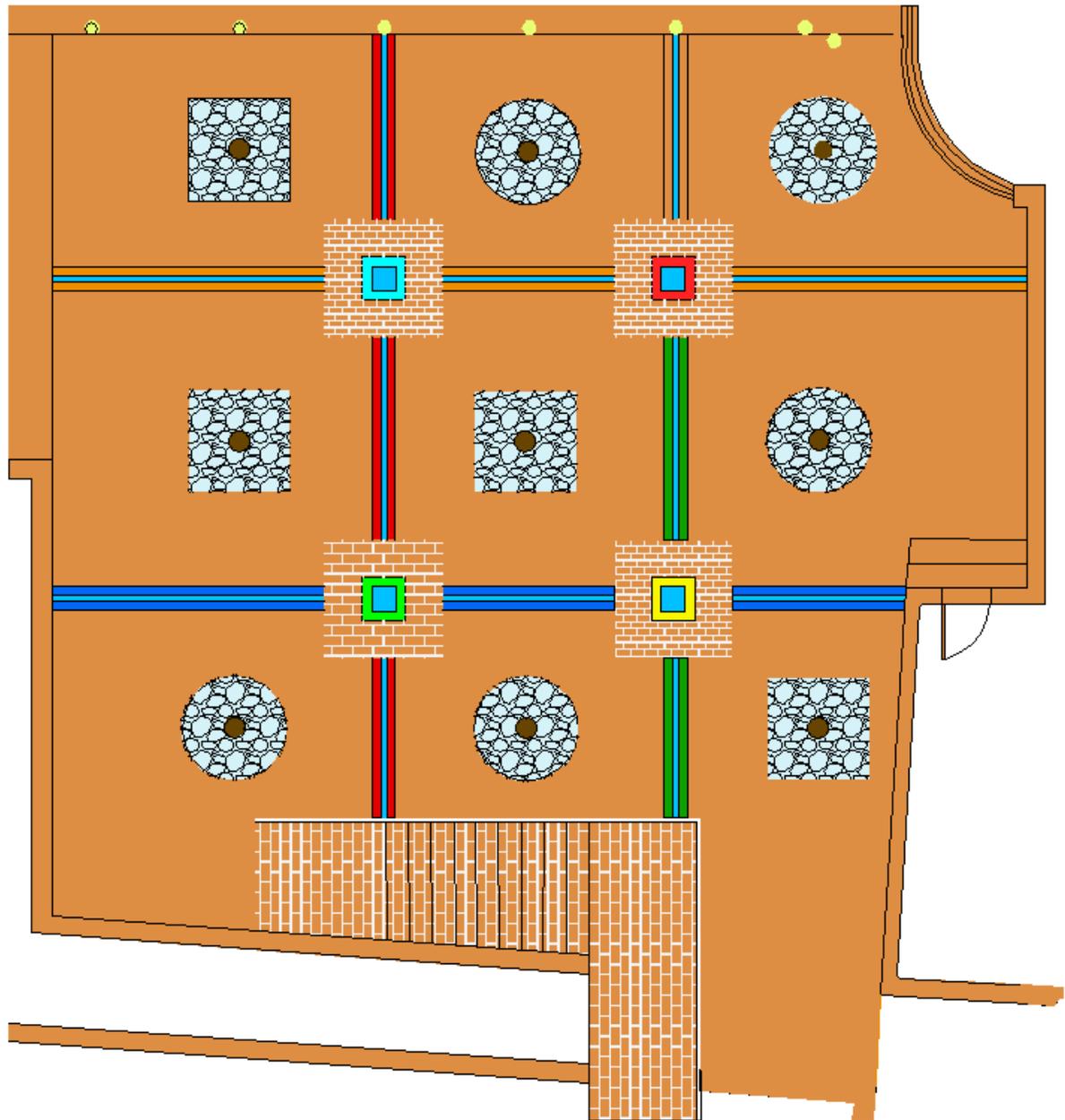
References for the plan drawing of the pleasure garden at Stourhead includes the following: Moore, Mitchell, & Turnbull, Jr. (1988), pp. 137 and 138; Jellicoe & Jellicoe (1995), p. 240-241; Laurie (1988), p. 46; and Woodbridge (1982), pp. 15 and 44.

## 6. The Goldstone Garden



The source for the plan of the Goldstone garden is the author's photograph of Eckbo's original drawing of the plan on yellow tracing paper, located in the Environmental Design Archives of the University of California at Berkeley.

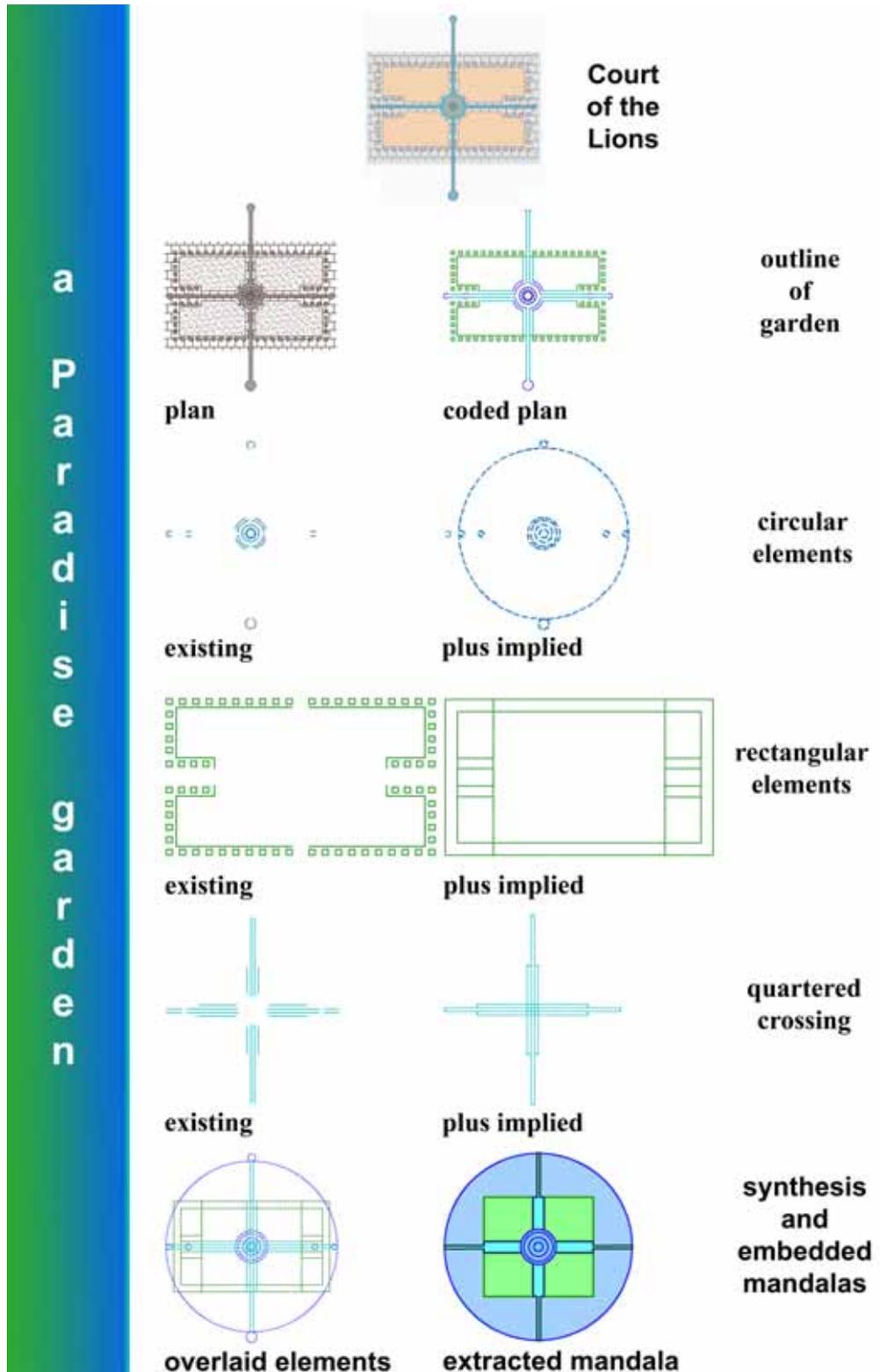
## 7. The Dickenson Garden



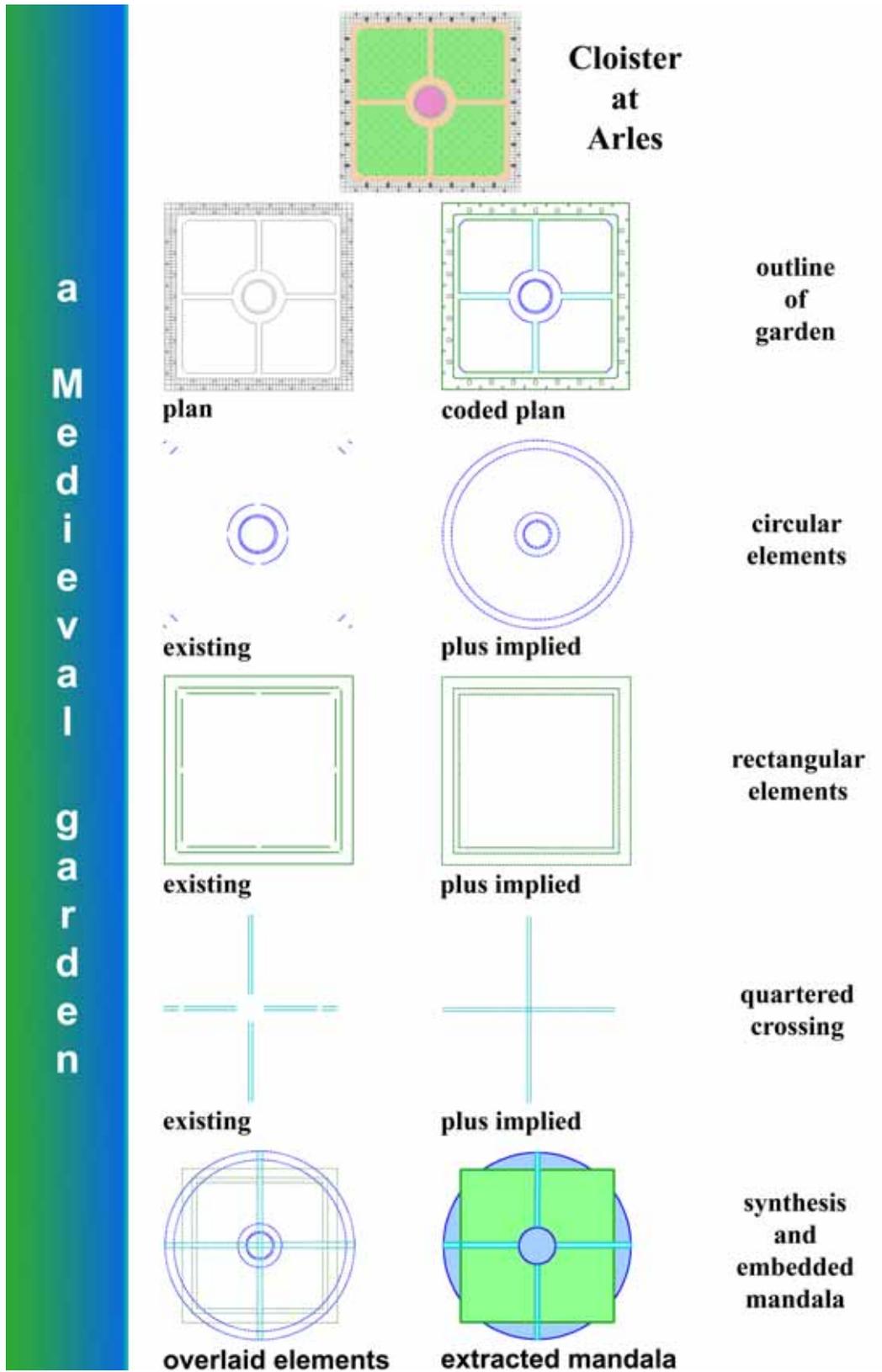
The plan for the Dickenson garden is taken from Schwartz (1997), pp.138-139 and Richardson (2004), pp. 162-165.

**APPENDIX B  
SUMMARIES OF THE SEVEN ANALYSES**

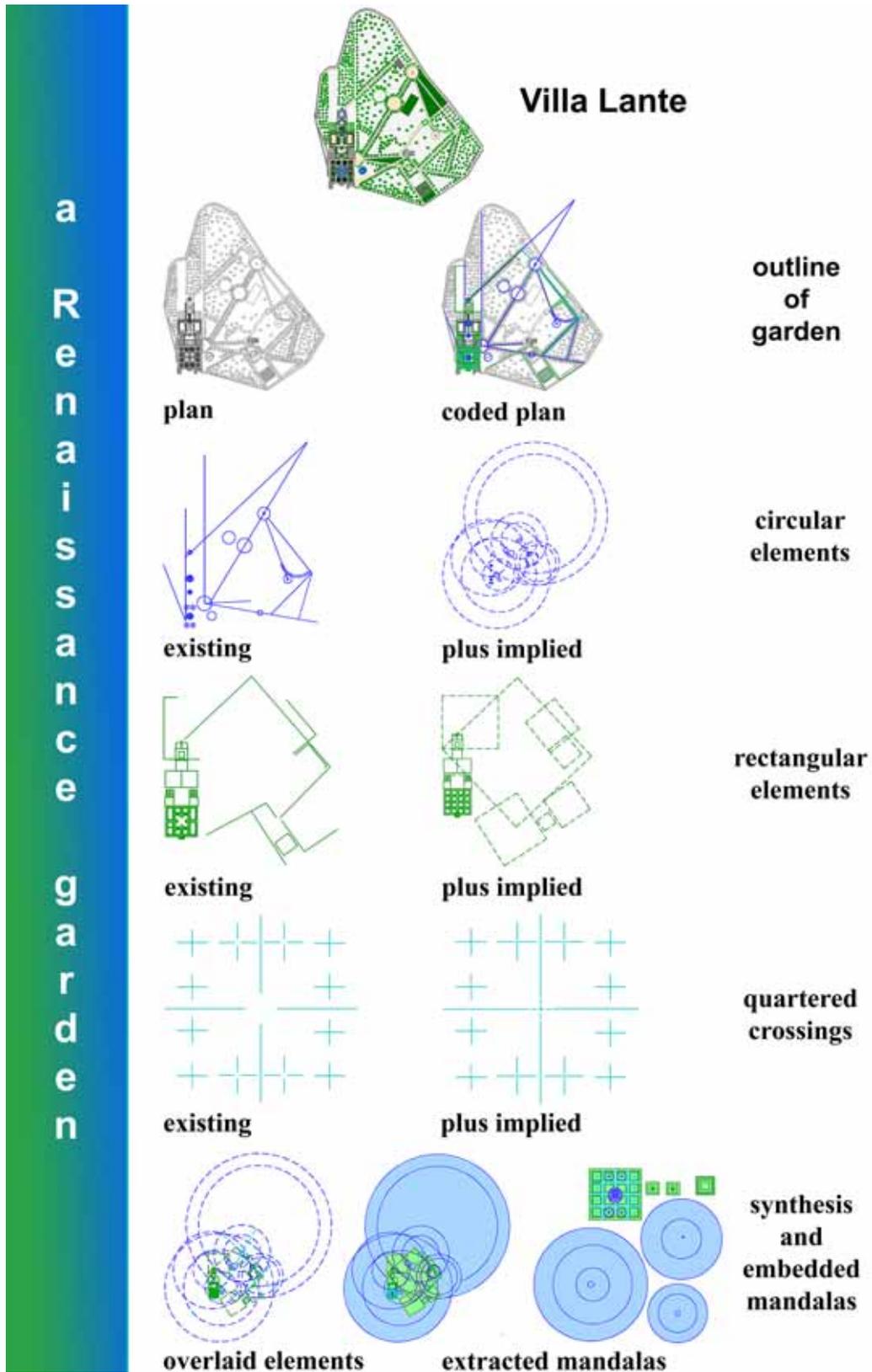
**1. Paradise Garden Analysis Summary**



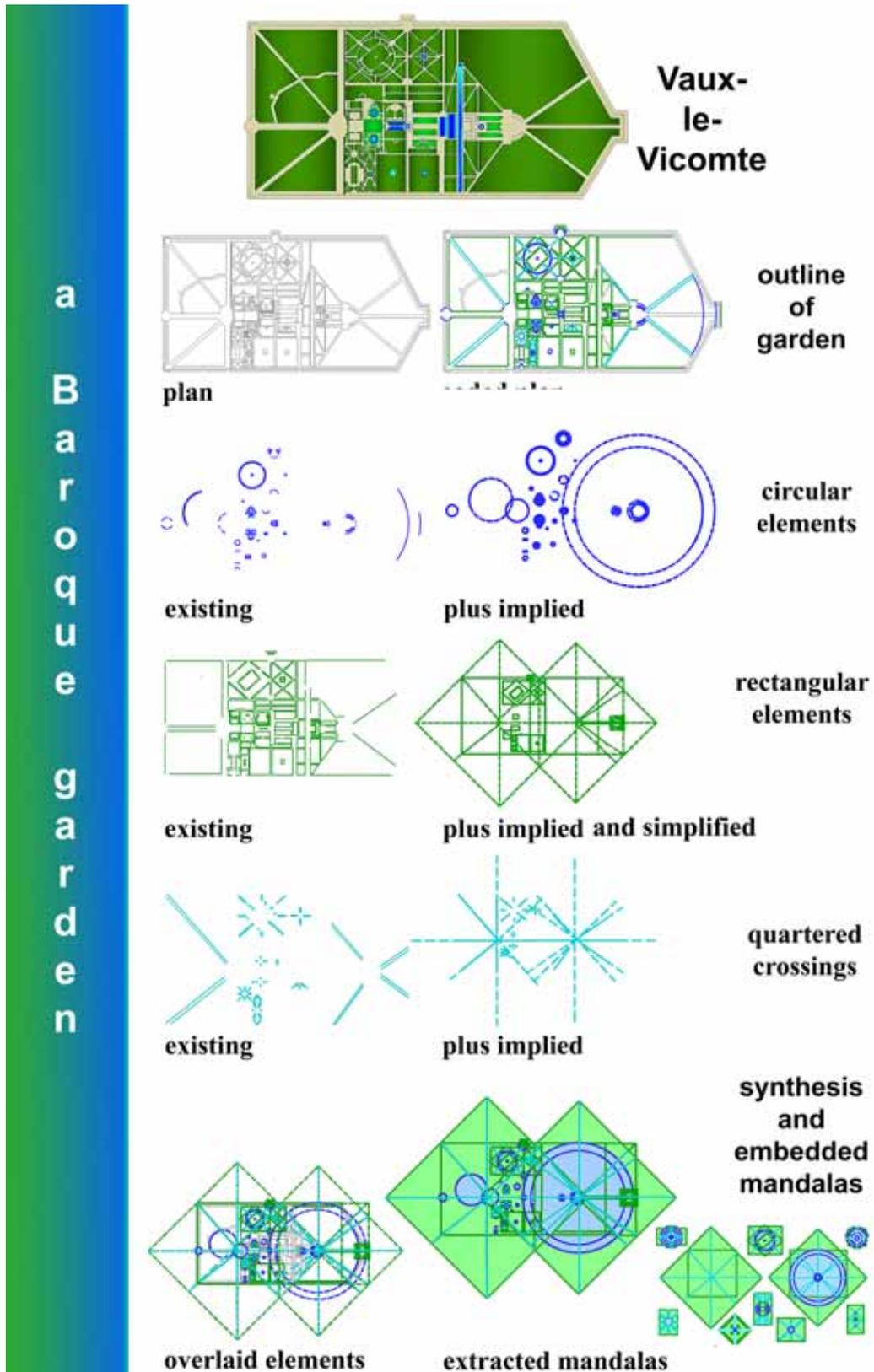
## 2. Medieval Garden Analysis Summary



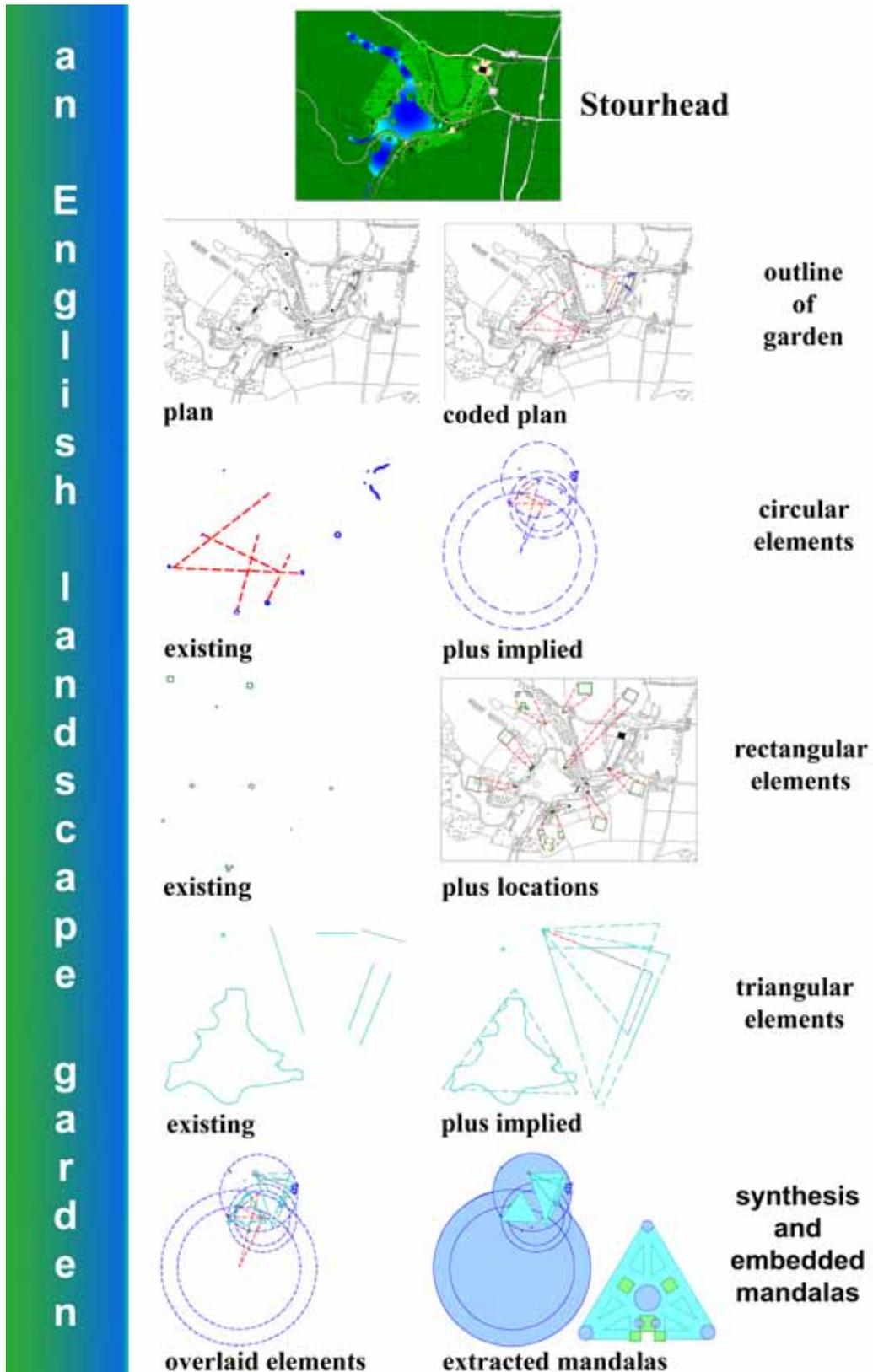
### 3. Renaissance Garden Analysis Summary



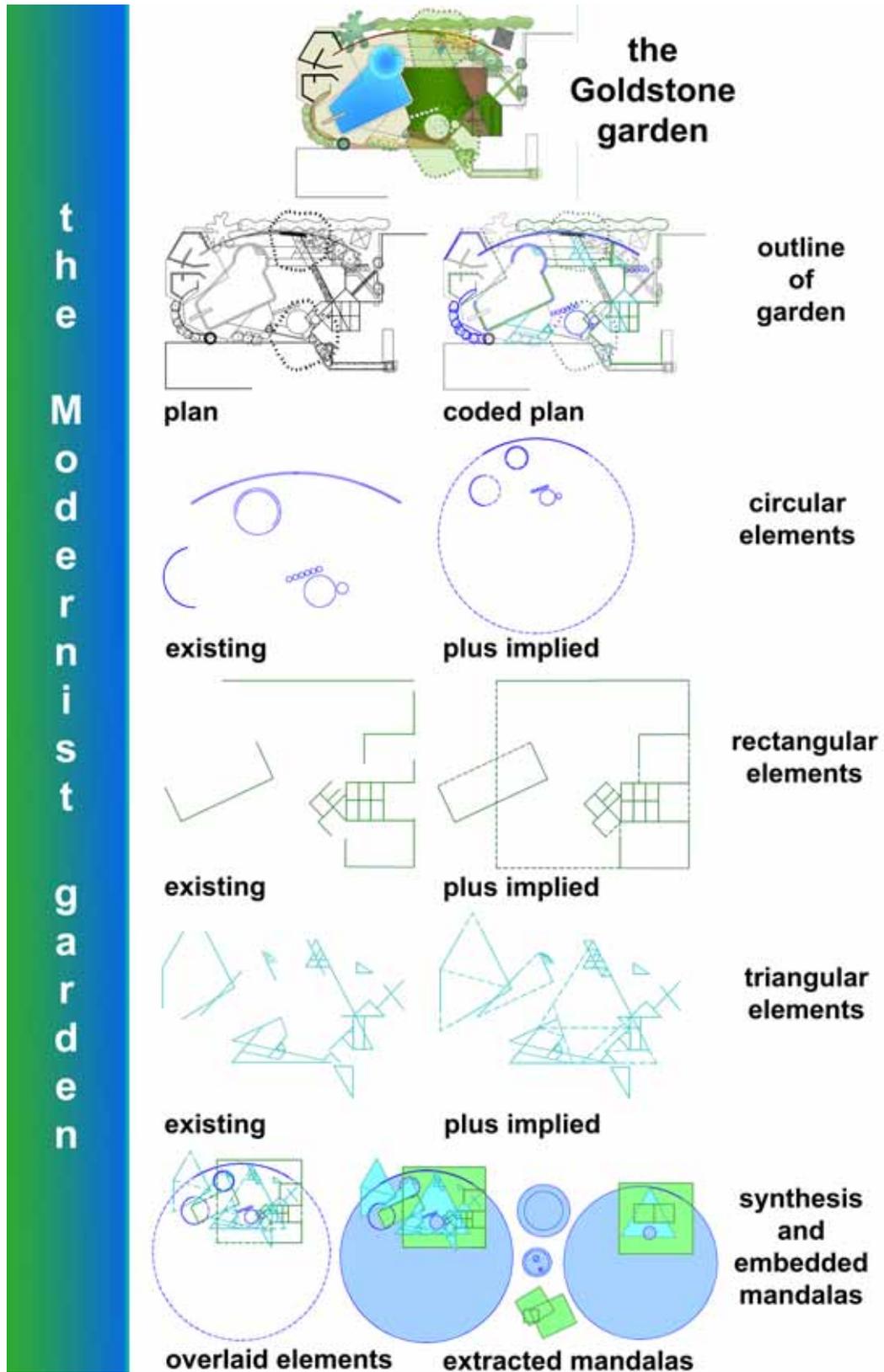
#### 4. Baroque Garden Analysis Summary



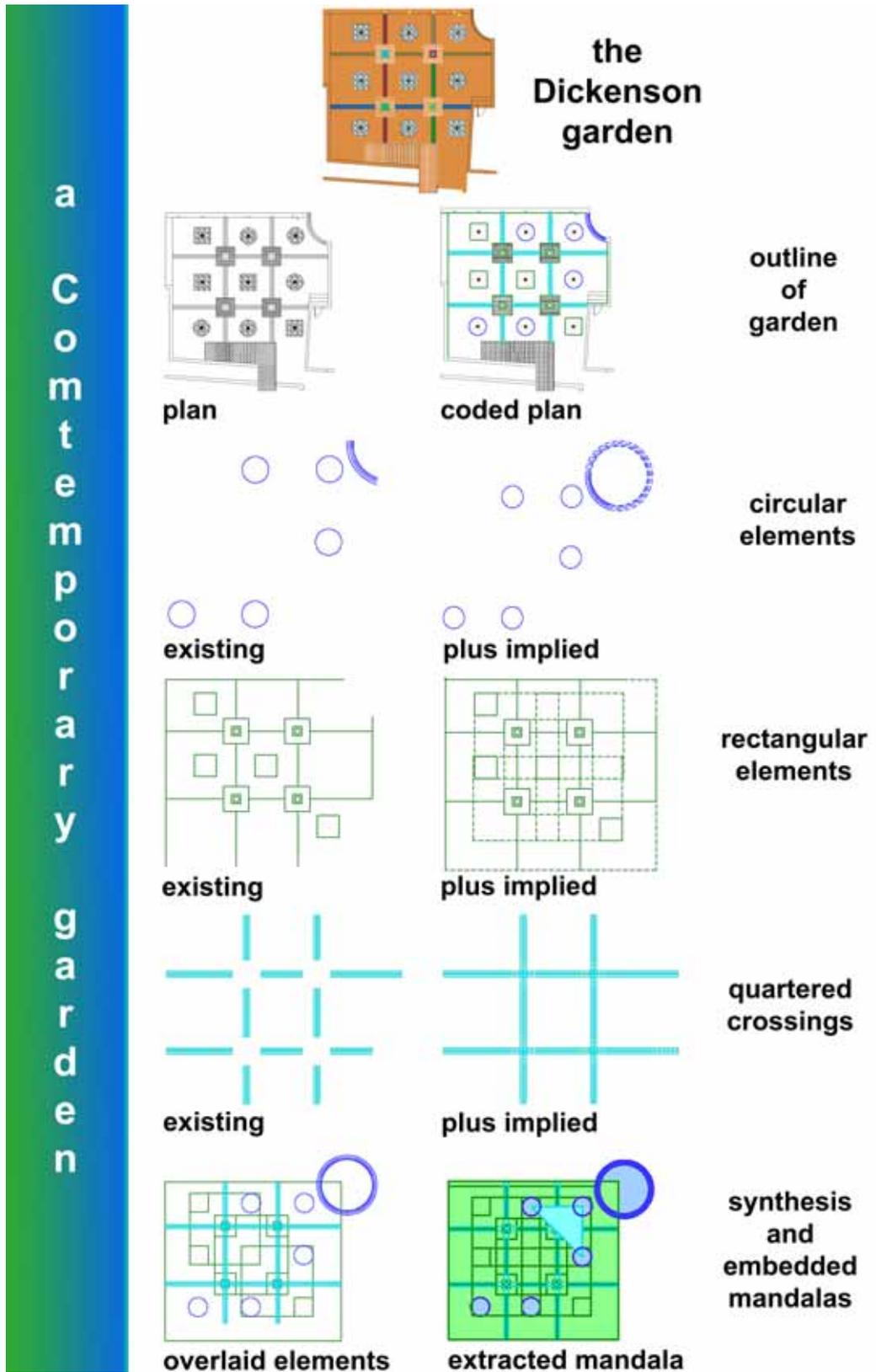
## 5. English Landscape Garden Analysis Summary



## 6. Modernist Garden Analysis Summary



## 7. Contemporary Garden Analysis Summary



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Alice Sherrod was born on November 14 in Montgomery, Alabama. She grew up in Dothan, Alabama, graduating from Dothan High School. She received an undergraduate degree in Radio and Television from the University of Alabama. After marrying, rearing four sons, and divorcing, she earned a Master of Psychology and Counseling from Troy State University at Dothan, a Master of Architecture from the University of Texas at Arlington, and a Master of Landscape Architecture at the University of Pennsylvania.

Alice is presently an Assistant Professor at Texas Tech University in Lubbock, Texas, where she teaches graduate and undergraduate design studios and computer graphics. Her research interests include the application of Jungian principles to the built environment, and the use of the Myers-Brigg Type Indicator in her classes.

Upon completion of her Ph.D. Alice will continue in her teaching career.