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Water: Embodiment of cultural, social and
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This work and its defense approved by:

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Water: Embodiment of cultural, social and spiritual dimensions

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by

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As societies and technology have developed, the availability of water have become taken for granted. Water is seen as a service, rather than something sacred. To maximize water as a design tool architects must understand its meaning. The aim of this paper is to provide insight into the cultural, social and spiritual dimensions of water to and demonstrate the value of water as a design tool.

Fundamental to perception, the appreciation and understanding of things are the issues of order and meaning. All buildings have meaning, but some buildings have the ability to move us deeply because of meaning and the associations they arouse within us. Our experiences and memories can be enhanced through the architecture. Water has tremendous sensory, spiritual and cultural value, as do all of the Four Elements. Through history, various cultures have identified gods to represent the elements and their values.

To understand the value and power of water, one must appreciate not only its physical properties, but also its metaphorical ones. Water literally and symbolically is the source of life and purification. As such, it also serves as the bridge between the physical and the spiritual realms. This is true across history and cultures. It is this rich symbolism that gives water
meaning in architecture.

The Garden of Eden is often seen as the origin of life, with its four rivers flowing forth from its walls and enriching the surrounding environment. It is this idea that inspired Nicholas Longworth when he named Eden Park in Cincinnati. Similarly, Eden Park Ecological Center, located in the park’s center like the Tree of Life, represents the values of the original paradise garden.

Eden Park Ecological Center recalls the physical properties of water simply by its location on the former site of a city reservoir, as well as its design. The center celebrates water’s metaphysical values by educating the community about water.
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Chapter 1:

Introduction
As we search for the source for meaning, or that which is intended, one begins in the realm of psychology. From its origins in philosophy and science, psychology has struggled, how to understand the human mind and emotions. In particular, the psychology of perception deals with how we understand the world around us.

It is through the meaning which is perceived by the human mind that the significance of things is realized. Some buildings are profound, even symbolic, in how we understand them. In this way, buildings house the ability to move us. Although this is a complicated issue, examining how meaning can be assigned to built form by using the medium of water, one can hypothesize that greater understanding of how meaning is created in buildings can be achieved.

If meaning is born of memory, that is, the store of things learned and retained, architectural meaning is born of the memory of space. The ability to recall spaces, settings, and previous experiences gives meaning to the built form. For architecture to move us, it must speak through the built form and our recollection of other places. Architecture is not about words, it is not merely about buildings. Nor is it primarily a visual art; it is a set of experiences through a space.
Lao Tzu described the usefulness of the empty: “Molding clay into a vessel, we find the utility in its hollowness; cutting doors and windows for a house, we find the utility in its empty space.” Crucial to this approach is to understand that space is not truly empty; rather it is full of potential for meaning and experience. The most profound architectural experiences are spatial: those whose meaning arises from enclosure and openness, movement and rest, from effects of scale relative to the human, and from issues of order and chaos, clarity and obscurity.

Architectural meaning begins with meaningful space, but architecture uses multiple elements in the shaping and articulation of space. Water is a powerful and versatile architectural element. It creates imagery through its various forms and designs.

Any analysis of water should begin with the ancient cultures that accepted four basic principles as the root of everything they knew: Earth, Air, Fire and Water. After millennia of advances in scientific knowledge, the Four Elements are still accepted as powerful sources that shape human psyche and emotions, as well as the natural world. The Four Elements also are rich in symbolism in cultures around the world.

As essential to life as oxygen, water has always played a
fundamental role in architecture. Water nourishes architecture by creating imagery. In turn, architecture reflects, highlights, and lends shape to water. An analysis of water’s physical, as well as its metaphysical, properties offers an understanding of the relationship water and architecture share.

Across cultures, water is seen as the source of life and purity. Symbolically, it also serves as the link between the physical and spiritual worlds, as in the biblical story of the Garden of Eden, which sets forth the purity and the precedent for the future of man.

Through its architectural design, Eden Park Ecological Center utilizes water as a valuable design tool. The center’s programming highlights water’s cultural, social and spiritual dimensions.

1 Amos Ih Tiao Chang The Tao of Architecture. 1956
Chapter 2: 

*Meaning: Water and the other 3 Elements*
While the human mind grasps the concepts of four elements of which all things are made, the concept is metaphysical. That is, it extends beyond the physical realm to spiritual concerns and therefore cannot be rationalized.

To try to explain their world, ancient cultures accepted four basic principles as the root of everything they knew: Earth, Air, Fire and Water. After millennia of advances in scientific knowledge, the Four Elements are still accepted as powerful sources that shape human psyche and emotions, as well as the natural world. The Four Elements also are rich in symbolism in cultures around the world.

A fifth-century Greek named Empedocles is credited with the concept of the Four Elements. He is considered one of the founders of Western science and philosophy. According to historian Peter Kingsley, Empedocles introduced the Elements as gods: Hera was Earth; Zeus was Air; Hades was fire; and Nestis was Water. Psychologist C.G. Jung agreed with Empedocles idea of Elements as gods. Like the gods, Elements are also archetypes, Jung said. Because archetypes are structures in the collective unconscious, they are universal. As archetypes, they are beyond complete analysis; they can be circumscribed but not described; ultimately they must be experienced to be understood.¹
Empedocles did much to illustrate the nature of the Elements. Physical manifestations of the Elements are the land, the sky, the sun, and the sea. Empedocles used a variety of words for each of the elements. Those words help build a framework for the symbolism and energy attributed to each one; they help explain their meaning. For Earth, he used words meaning land, soil and ground. For Air he used words meaning clear sky, heaven, firmament, brilliance, ray, beam, glance, eye, splendor, mist and cloud. For Fire he used words meaning flame, blaze, lightning, sun, sunlight, beaming and East. And for Water, Empedocles used words meaning rain, sweat, moisture, sea, water and open sea.²

For Empedocles, the Elements existed outside of the material world. He believed that people, animals, and objects were composed of a mixture of two or more Elements. His ideas were accepted for hundreds of years. As late as the Middle Ages, Europeans still believed in the presence of the Four Elements in human beings. The theory is actually pretty good. Think of solids, liquids, gases and energy. Most of the early observable phenomena of the world can be so described. Indeed, the four elements became the basis for all existence.

Myths, legends, riddles, proverbs, and superstitions provide evidence that the Four Elements are firmly embedded in literature of the Western world.
To explain the creation of man and how man became master of the earth, a Greek myth states that the god Zeus commanded two titan brothers to create the animals and endow them with special gifts. The impulsive Epimetheus created one strange looking animal after another, but Prometheus created a small living figure, that was god-like in appearance, and man was born. Zeus however, did not like the man creation and was furious. Prometheus gave man the gift of fire, but was sentenced to an eternal punishment for his act.\(^3\)

A passage from the book of Genesis gives another explanation of how the man was created: “And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.”\(^4\)

Other cultures also express beliefs about the Four Elements. Some belief systems divide the world in two, like the Chinese concept of yin and yang. Water and earth are yin, or female, while air and fire are the masculine yang forces.\(^5\)

Earth is the first and most important Element. The Greeks and Romans named the planet after it. Many people thought of the earth as their first mother, the source of all life. The Greeks called her Gaia; she was Prithivi to the Hindus;
and Ishtar to the Babylonians. People all over the world, from North America to Japan, believed in an earth mother goddess. Indeed a fertile earth is needed to grow crops and raise animals, the sustenance of humans. The special status the Greek bestowed on Earth is apparent in their myth about how the three brothers, Zeus, Poseidon and Hades, divided the world among themselves after they defeated the Titans. Poseidon ruled the sea (Water); Zeus ruled the sky (Air); and Hades ruled Tartaros (Fire). The Earth however, was held in common between them. All three recognized the sovereignty of Earth.

In ancient Egypt, women who wanted babies and women who were about to give birth pressed themselves close to the ground to share in her fruitfulness. Until quite recently, in one part of Italy, newborn babies were placed on the earth as soon as they had been bathed and dressed. It was a way of saying that all life comes from the earth, our mother.

Perhaps a belief that the Earth could give life to anything, has led people in many cultures since prehistoric times to bury their dead. If mother earth could bring back flowers and crops and trees after the dead period of winter, perhaps she could bring her human children back to life, too. The Christian burial service still says, “Earth to earth, ashes to ashes, dust to dust; in sure and certain hopes of the Resurrection to eternal life.”
Earth is the root of all structure, the stable foundation. As such, the psychological characteristics of this Element include realism and pragmatism. An earthy person is thought to be placid and reliable.

Historically, Air has been the most mysterious Element of all. Everyone needs it to live; yet it is invisible. Air has been connected to the sky, where all gods lived with winds, their servants.

The Greeks spent a lot of time looking up to the sky. Bellerophon and his horse, the winged Pegasus, tried to fly up to the gods’ home on Mount Olympus. Zeus thought the boy was too ambitious and had the Pegasus throw Bellerophon back to earth. Pegasus reached Olympus and lived there ever after. Elemental Air represents active change of form. In a psychological context, Air corresponds to flexibility, creativity and cheerfulness.

Earth, Air and Water are all around, but Fire occurs on its own in nature only occasionally. Fire is considered the critical element that joins heaven and Earth, enters the picture and prophetically consumes all the other elements. Fire was the force of Spirit, a property of the gods that gave heat and light. Academics surmise that, because fire’s heat is too hot to touch and because it could make living things disappear into ashes as if the gods devoured them.

According to the Christian tradition, there is no fire until God’s Spirit.
In many parts of the world, the first gods to be worshipped were sun gods, powerful fire beings thought to live inside the sun. The supreme god of the Egyptians was Ra, who shared his qualities with whoever was king at the time. In India, Surya, the eye of heaven, and Savitri were both sun gods. Parsis of Iran and India still worship Ahura Mazda and have sacred ceremonies involving flames. Fire has its own mythical creatures. The Egyptian phoenix was an extraordinary bird that represented the sun. The Chinese fire creature is the dragon. In contrast to the dangerous and forceful meaning fire sometimes carries, candles in a Christian church symbolize the soul, the undying spirit of a human being.

The most fearsome of all natural fires comes from the heart of the earth, a volcano. The Hindus of Java believe a god lives inside the fire. They climb to the top of the volcano to give the god gifts to keep it happy.

Based on current archeological evidence, it is conjectured that first people to make fire lived in China about 400,000 years ago. The ability to make fire is a skill that separates people from animals. Controlled fire gives heat for cooking, as well as light and warmth. Fire gives light, and it is light that eliminates darkness. In essence, sun and fire create order from chaos. Perhaps
this accounts for the importance of fire in ancient mythologies. In many parts of the world the first gods to be worshiped were sun gods, powerful fire being who were thought to live inside the sun. The supreme god of the Egyptians was Ra, who shared his qualities with whoever was king at the time. In India, Surya, the eye of heaven, and Savitri were both sun gods.

Empedocles distinguished Fire as the Element of action. In alchemy, Fire is considered the primary agent of change. And in physics, Fire corresponds to energy. Coinciding with this, a fiery person is seen as quick-tempered and ambitious, on the move.

Water can result from the union of Earth and Air. Persephone was born of this union of the Lord of the Air and the Lady of the Earth. While Earth is the foundation of life, Water has been revered as the spring of all life, both literally and symbolically. In the Bible, for example, Noah’s flood began a new civilization. Moses’ name meant “drawn out of the water”; The Red Sea crossing signaled the birth of Israel; The Israelites had to cross the Jordan River to get to the Promised Land. Jesus’ baptism in the Jordan began his ministry; and Jesus taught that, one must be born of water and air to enter the kingdom of God. Crops and grass can’t grow, without water. Ancient peoples performed ceremonies and spells to encourage rain.
The Chinese have always considered the dragon a divine being. Long ago, they thought the dragon commanded rain, going to the sky in spring to start it and to deep water in winter when rain was superfluous. The rain dances of the Native Americans are elaborate symbolic gestures and patterns. They use many amount of drums and rattles to imitate the sounds of thunder and rain showers.

Buddhists use water during funeral services where water is poured into a bowl placed before the monks and the dead body. As it fills and pours over the edge, the monks recite: “As the rains fill the rivers and overflow into the ocean, so likewise may what is given here reach the departed.”

In Islam, water is important for cleansing and purifying. Muslims must be ritually pure before approaching God in prayer. Some mosques have a courtyard with a pool of clear water in the centre for cleansing before entering the mosques.

Because of its physical nature, which will be discussed in the next chapter, water can bind things together, as well as dissolve them. Water can take on different shapes. Consequently, Water is associated with emotional relationships, conforming, and empathy. The next chapter delves into the cultural and symbolic meaning of water in greater detail.
After researching Meaning: Water and the other 3 Elements, the following actionable principles were incorporated into the Eden Park Ecological Center:

- The Elements are archetypes – they can be circumscribed but not described; ultimately they must be experienced to be understood.
  - Earth is the root of all structure, the stable foundation.
  - Everyone needs air to live; yet it is invisible. Air corresponds to flexibility and creativity.
  - Fire is the critical element that joins heaven and earth. And this fire is represented through the use of the axis mundi as a design element.
  - Water is the spring of all life both literally and symbolically.

---

1 C.G. Jung. Psychological Types. 1958
2 Jill Conway, Kenneth Keniston, and Leo Marx. Earth, Air, Fire and Water. 1999
3 Fables, Myths, and Legends Collections. 2003
4 2.7 KJV. The Book of Genesis
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12 Jill Conway, Kenneth Keniston, and Leo Marx. Earth, Air, Fire and Water. 1999
13 John 3.5. The Book of Genesis
14 Water in Religious. 2003
Chapter 3: Properties: Physical & Metaphysical
Water, as essential to life as oxygen, has always played a fundamental role in architecture. Water nourishes architecture by creating imagery. In turn, architecture reflects, highlights, and lends shape to water. An analysis of water’s physical, as well as its metaphysical, properties offers an understanding of the relationship water and architecture share.

To see the physical importance of water to life, one needs look no further than today’s headlines telling of the search for evidence of water on Mars. Such evidence, the press reports, would prove the possibility of life on the red planet. Water covers about two-thirds of the Earth’s surface, with nearly two-thirds of all fresh water frozen in the polar ice caps. Two-thirds of the human body consists of water, as is the case with most living species.

Before examining the symbolic values of water, it is important to consider its natural properties and physical behavior. There properties are the basis for symbolic values. Water consists of two parts hydrogen and one part oxygen. Pure water is odorless, tasteless, and colorless. Water is a solid at 32 F (0 C) and a gas at 212 F (100 C). When water freezes, it distinguishes itself from most other liquids by expanding “approximately one-eleventh of its volume.” When it is a liquid, water is nearly incompressible.
When water moves, its dynamics are controlled by complex interactions of forces, displacements, and energies. These invisible forces arrange all sorts of water movements, everything from drops and trickles to sprays and rapids.

Central to any study of water is the water cycle. Through that cycle, powered by gravity and evaporation, every drop of water on earth is circulated around the planet. The four stages of the water cycle – springs, rivers, pools and oceans – categorize how water and architecture relate. In the physical sense, water comes from one of two sources: either out of the ground or from the air. Water then travels to springs (fountains) or streams downhill to (rivers) until it rests in a level container (pools) or flows to a lower elevation (oceans). Water evaporates from oceans and pools. It stays in the atmosphere until it condenses into clouds and falls back to earth as rain. Once the rain is absorbed into the ground, the cycle starts over again.

At every stage in this cycle, water offers an opportunities to understand its possibilities as a design tool. The undisturbed lake acts as a natural mirror, as in countless natural examples or in Tadao Ando’s Church on the Water in Hokkaido, Japan or Mies Van Der Rohe’s Barcelona Pavilion. Streams glide through their surroundings. Waterfalls fill the air.
with mist like in Frank Lloyd Wright’s building, Falling Water. Fog banks roll over hills and through valleys. The ocean brings with it a coastline, an edge. Chemistry and physics dictate water’s behavior, but the vast array of ways the environment shapes water inspires the architect, the artist and the poet. The metaphysical properties of water are as encompassing as the oceans are deep. Water has long been regarded as one of the four basic elements of the universe, along with earth, air and fire. Under the medieval law of interdiction, suspected spies, it was forbidden to supply banished criminals with fire and water, since both were essential for survival. Life-giving water appears over and over as a common thread woven through religion, literature, and art of every culture. As a source of life, water becomes a great symbol for life. In the Catholic faith, for example, water is a symbol for the Holy Spirit helping people achieve heaven. “Whoever drinks this water will thirst again; but anyone who drinks the water I shall give will never be thirsty again. The water I shall give will turn into a spring inside that person, welling up to eternal life,” wrote Saint John in his gospel.

In the Koran, water is a gift from God, a token to mortals of divine omnipotence and omniscience: “Have not those who disbelieve seen how
Heaven and Earth were once one solid mass which we ripped apart? We have made every living thing out of water.” The Hindus, for example, regard the Ganges in India, as the sacred mother, and to die beside her is to find union with God. Water is a sacred element in Hinduism. Many centuries before Christ, Lao-tzu, the father of Taosim, wrote: “The supreme good is like water, which nourishes all things without trying to. It is content with the low places that people distain. Thus it is like the Tao.”

In China, where earth has commonly been viewed as a living organism, water is cherished as a manifestation of the Tao pointing to the path of natural order. Chinese water color artists often included water in their landscapes as a sign of life, either collecting in pools or flowing through rivers or waterfalls. “Water is a living thing,” noted Kuo-hsii in his Essay on Landscape Painting.

Water as a sign of life appears in Western art as well. In Annibale Carracci’s essay, Landscape with the Flight into Egypt, Carracci places the water source in the center of the lunette, at its compositional focus. Carracci states that water is the central source of the ideal landscape’s life giving heart. This idea can be traced back to the Garden of Eden. The life-giving center of the garden or heart was a fountain.
The other side of water's life-giving power is that, it is also is a symbol of death. According to Greek mythology, people on their way to the netherworld crossed the river Styx, for example. As complex and vital as water is, it can also be empty, dark, and cold. “Until modern times, water was feared as an evil force”. Unseen in its subterranean passageway, water was thought to entomb the spirit of the dead. Water relentlessly wears away, rots, floods, and drowns. It even unravels memory. John Keats suggested that his tombstone in Rome's English Cemetery state: “Here lies One Whose Name was writ in Water.” Where there is no trace once you cross over. This statement refers to the empty, dark and evil forces of water.

Symbolically, water can imply both death and rebirth, because it acts as a bridge, spanning the gap from physical reality to spiritual surreality. The Greek myth of death and rebirth deals with the death of Osiris. Osiris was murdered by his brother Typhon and thrown into the Nile River. The lead coffin washed ashore, took root and grew into a tamarisk tree. Once Typhon realized the coffin had returned he removed the body and cut it into pieces and threw the genitals into the Nile. But the genitals cast into the Nile communicated a fecundating power to the river, which from that time became the source of life to all of Egypt.
While above, The Christian tradition uses water to signal the introduction into the spiritual life and the promise of eternal salvation. Jesus answered, “ Truly, truly, I say to you, unless one is born of water and the Spirit he cannot enter into the kingdom of God.” Jesus was teaching the significance of baptism by immersion in water. By being baptized, we symbolically go through the death, burial, and resurrection through which we become a child of God. When we are baptized for the forgiveness of our sins, by immersion in water, our sins are washed away and we receive the gift of the Spirit. This act unites us with Christ, and we are added to His Kingdom, which is His church.

Drinking special waters also has been linked to good health. Ancient Greece had springs from which only the immortal gods were privileged to imbibe. Today the craze for special waters sustains a booming market for extravagant plain bottled water. The ultimate spring is the mythic fountain of youth, whose water magically washed away time and wrinkles, and extended life.

Across cultures water is often a sign of life and fertility. Metaphorically, fresh, clear, reflective water suggests youthful health and beauty. People waiting for rain around the world have devised all kinds of
rituals to call the rainmaking gods. In the *Golden Bough*, Sir James Frazer described several rituals that emphasized the connection between water and fertility of the earth. In Indonesia, the ritual leader would shake a dripping bough at the soil to encourage the clouds to open up.\(^9\) Rain charmers in New Britain would bury a wet bundle in the ground and then imitate the splashing of water with their mouth.\(^10\) Sometimes the fertility of women would be called upon as an added inducement. In India, naked women and girls hoping to charm rain from the sky would go out in the middle of night and pull a plow through the fields.

At each stage of the water cycle, water serves symbolic purposes. Fountains represent both the emergence and disappearance of fresh water. When water bubbles up naturally from a spring, it speaks of the origin, the source of life. At the other end of the cycle, as water seeps into the earth, it evokes the cyclical return and journey back to the source. It stirs images of departure, death, and hoped-for return. Fountains have symbolized sacred sources, the origin of life, and the initial stage of the water cycle. Just as blood returns to the heart in a life sustaining cycle, water circulates through the global cycle to nourish the earth, ultimately returning to its fountain heart source to be renewed. To paraphrase Nicola Salvi, the architect of the
Trevi Fountain, fountains and the water they give forth can be called the only everlasting sources of continuous being.11

For all of history, people have depended on fresh water, so its source is always an important place where people settle, and cities flourish. Consequently, fountains, which represent the sacred typically, also designate important urban places. In ancient Rome, neighborhoods organized around the aqueduct spout. In ancient Greece, women gathered at the fountain and created a secret society.12 Even today, when cities do not rely on public fountains for their water supplies, fountains still are focal points in communities. An example is, the Tyler Davidson Fountain in Cincinnati; what most people refer to as Fountain Square. It has been 96 years since the fountain was erected on the Fifth Street plaza. The fountain acts as the nucleus of the square as well as a little oasis in a busy city. It is called the center of the city, and, if not centered geographically, it is at least the heart of the business district. Fountain Square has often been used as a symbol of the city itself.

Fountain water also can be purifying. From ancient Jerusalem, a chant is sung on the holy day, Good Friday:
And Thy life-giving side, like a fountain bubbling forth from Eden,
Water thy Church, O Christ, like a reasonable Paradise,
Thence dividing into sources, into four Gospels,
Watering the universe, purifying creation,
And teaching the nations faithfully to worship Thy Kingdom.13

After emerging from springs or falling from the sky, water travels through natural streams or man-made versions of the same until it reaches a level container, a lake, or flows into a larger river. Throughout history, rivers served as avenues of communication and connection, linking cities and empires, or, on a smaller scale, networking gardens or courts. By enabling transportation, rivers helped trade to expand and prosper, and sustained agriculture with irrigation. The flow of water also supplies hydropower for mills and factories. Known as the great river of the south and the mother of all civilizations, the Nile supported Egypt.

Streams, rivers, rain, and springs fill lakes and pools, where water rests before it evaporates into the atmosphere or drains to lower elevations. Lakes embody notions of collection and reflection. Their glassy surfaces and calm bodies contrast with the energized liquid of fountains and rivers.
Therefore, lakes and ponds have always been important ingredients in the recipe for a Romantic landscape. Lakes and ponds form luminous horizons, pacify the psyche and become repositories of dreams.\(^{14}\) Pools offer a synthetic alternative to lakes. And, as they reflect their surroundings, they became places of reflection.

Any study of architecture and water has at its disposal a rich history of symbolism and tradition, as well as a foundation in physical and natural wonders. A key thing to point out in this “architectural” understanding of water is the fact that simply “water as such (H\(_2\)O)” does not carry any particular meaning outside of a particular context. It is only water as presented in concrete, existential situations that is understood as having a connection to human society, life, and meaning. For example, water at the entrances of a church carries with it the meaning of purification.

After researching Properties: Physical & Metaphysical, the following actionable principles are incorporated into the Eden Park Ecological Center:

- Water is the spring of all life, both literally and symbolically. Through the use of water’s many properties purity is symbolized throughout Eden Park’s Ecological Center.
- Water serves as a boundary throughout the programming. It brings
order to a chaotic environment.

1 J Sterns, Biology Third Edition. 1994
2 Charles W. Moore, Water and Architecture. 1994
5 Charles W. Moore, Water and Architecture. 1994
6 Charles W. Moore, Water and Architecture. 1994
7 Simon Schama, Landscape and Memory. 1995
9 Sir James George Frazer, The Golden Bough, A study in Magic and Religion. 1923
10 Sir James George Frazer, The Golden Bough, A study in Magic and Religion. 1923
11 Charles W. Moore, Water and Architecture. 1994
12 Charles W. Moore, Water and Architecture. 1994
13 Charles W. Moore, Water and Architecture. 1994
14 Charles W. Moore, Water and Architecture. 1994
Chapter 4:

Meaning: Garden of Eden - Paradise Garden
The popular biblical story in Genesis depicts Adam and Eve in a beautiful garden. It has always been a quite interesting story as it set the precedent for the future of man. In describing the Garden of Eden, the Bible says, “A river flowed out of Eden to water the garden and there it divided and became four rivers:” the Pishon, the Gihon, the Trigiris, and the Euphrates. These rivers place the garden in the fertile crescent. The garden was a well-watered place, abundant in food.

The Paradise Garden is a form of garden, originally just paradise, a word derived from the Avestan language, or Old Persian. Its original meaning was a walled-in compound or garden; from pairi, around, and daeza, wall, brick, or shape. Paradise Garden came to be commonly used in English and other European languages as an alternative for heaven.

Because of the additional meanings for the word, the enclosed garden of the original concept of 4 squares is now often referred to as a paradise garden. Eden was supposedly located in the Near East, close to Israel, its precise locale narrowed by the position of the four rivers.

The following three verses are from the Old Testament familiar to Christians and Jews. They contain one of the earliest descriptions of a garden, the original Paradise garden. They also amount to the shortest, most concise
In the Beginning…
And the Lord God planted a garden eastward
In Eden; and there he put the man whom he had
formed.
And out of the ground made the Lord God to grow every
Tree that is pleasant to the sight, and good for food; the tree of
Life also in the midst of the garden, and the tree of knowledge of
Good and evil.
And a river went out of Eden to water the garden; and from
Thence it was parted, and became into four heads.²

The Koran refers to paradise in terms that are reminiscent of the
Judaic or Christian garden. The Abode of the Just is called the Garden, al-
fanna, often described as a garden through which rivers flow but also as the
Garden of Eden or the garden of delight.³ The idea of paradise as a place
of rest and refreshment in which the righteous live in the presence of God
appears in Judaism, and thence in both Christianity and Islam.⁴

The Garden of Eden with its Trees and angels is associated with the
various visions of the earthly and heavenly paradise. A spectacular variety of flora is advisable, to the extent that a botanical garden would be a good backdrop for paradise.

The Tree of Life has been told two ways. Our original understanding from the Biblical passage, the Tree of Life in the midst of the garden, means not a separate, visible object standing in the middle. It is the pattern of the Tree of Life enfolded within the pattern of the whole garden, partially reflected from each item and surrounding everything in the garden. The second is actual tree grow in the center of the garden. Most of the trees in the Garden of Eden were there for the education of man. They were not all there as physical food. The Bible does not tell us how many trees there were in the garden, but there was only one that was not good for food. The tree, which was forbidden to Adam and Eve, produced knowledge of both good and evil. So if they ate from this tree they would sin and were told they would die. This tree of the knowledge of good and evil stands for Satan and the system he wished to use to deceive the first humans. He had already deceived and corrupted the host in the same way. The Paradise garden appeals to all the senses at once, delighting not only the eye and the nose, but also the ear too with gently splashing fountains, and birdsong.
Though these formal or paradise gardens are commonly associated with Islamic symbolism, they are also referred to as “Islamic” gardens. The origin of the distinctive form of the garden is acknowledged by scholars to lie in a time even more remote. In other, earlier cultural contexts it is not improbable that their symbolic meaning was quite different to the one attributed during the centuries of Muslim dominance, when this style of landscape design was most widespread. To quote Sylvia Crow, an authority on Mughal gardens: “...while Persian tradition has been one of the main forces in the evolution of the paradise garden, its origins are far older than the Persian Empire.

The arrangement of the Paradise garden is deceptively simple and suggests an abstract representation of these forms and processes. Typically, orthogonal grid of paths divide the space, four-square: which represents the cardinal directions N,S,E,W and how space is to be interpreted with the center becoming an axis mundi, taking the Paradise Garden to a heavenly paradise above; the plots in between are lush with the foliage of freely growing orchard trees, the whole garden is interlaced with a network of water-channels punctuated by pools and cascades. The garden is territorially defined and contained in a walled enclosure, accessible only through
symmetrically arranged gates. Often, one side of the enclosure, usually opposite the main entry gate is open to view the landscape outside.

Andre Le Notre, broke down the very walls of Eden by establishing axial conditions. At first he did it tentatively, at Vaux-le-Vicomte, where he turned his water channels at right angles to the axis and let the water and the imagination out of the garden into the countryside. Subsequently, he developed the idea at Versailles, where his allees fan out from the chateau into the infinite and bring the whole countryside in.

There are, significant departures from the prototypical garden layouts, depending on function and usage: the spatial concept of the Tomb garden of the plains is distinct from that of the pleasure gardens. The Tomb garden is always perfectly square. More often than not, the pleasure gardens have an axial relationship. The organization of landscape elements in the latter suggests a strong directionality towards a prospect or view: a river or valley panorama; whereas the funerary landscapes focus inward, on the tomb itself, the view outwards from one side certainly dramatic, but seemingly incidental to the main theme.

The thematic connections within the broad range of paradise gardens categorized as Islamic are three-fold: the presence of flowing water
as an absolute necessity, the strategic setting of the garden at a place with convenient access to a water source and thus already geographically identifiable, and the use of a grid - plotted internal spaces for many functions - for ceremony, recreation and sensory stimulation as well as horticultural production.  

At the heart of the design is the idea that the bagh or orchards should be alive with the continuous flow of water, whose primary purpose is to irrigate the garden and maintain its health. The means through which this is accomplished is the supreme achievement of the paradise garden. The garden contains a wide array of water-related elements and structures to provide a considerable aesthetic dimension to this ordinary task, by enhancing and modulating in many subtle ways the movement, appearance and sound of water. Familiar examples include, for instance, falls negotiating large differences in level, from one terrace to the next in thick sheets, their sound recalling the soothing rumble of waterfalls in nature. Or, in another interesting technique, inclined stone cascades engraved with patterns to create a white sheet of foaming water, especially effective when viewed by moonlight. Gravity-fed fountain jets, integrated into the carefully engineered system of channels and ponds complete the picture. In the best
examples, the entire ensemble is imbued with a delicacy of concept and elegantly precise execution, whose overall effect when everything was functioning can only be imagined.

Nader Ardalan in his incisive analysis of Islamic architectural tradition, *The Sense Of Unity*, touches on the great significance attached to choosing sites, which has a regional sense of place. Sites possessing a defined identity, for example, at the foot of the hill, or overlooking the valley, or again between the land and the water can be readily recognized as types of places where paradise gardens are found.

The gardens of Humayun’s tomb in Delhi, and of the Taj at Agra, exhibit variations in the development of this major theme. At Delhi, the river view seems incidental to the original scheme because attention focuses on the mausoleum occupying the centre of the garden enclosure. At Agra, the mausoleum is placed at the end of the garden, overlooking the river.

The visitor is drawn towards the river view. The base of the tomb functions as a vast platform from which to experience two worlds: the exquisitely sophisticated, enclosed paradise on one side, and the robustly rural, dusty expanse of the Jumna flood-plain on the other. These gardens today are without many of the features, which imparted a living vibrancy and
character; on looking at them now one has to imagine the presence of these missing elements to appreciate their true genius.

After researching Meaning: Garden of Eden – Paradise Garden the following actionable principles were incorporated into the Eden Park Ecological Center:

- **Water serves as a boundary throughout the programming. It brings order to a chaotic environment.**
- **Water is the spring of all life, both literally and symbolically.** Through the use of water’s many properties purity is symbolized throughout Eden Park’s Ecological Center.
- **The Tree of Life is the critical element that joins heaven and earth in the Garden of Eden.**


2. Genesis, 2: 8-10


Chapter 5: Precedents

Figure 52
Daniel Libeskind’s Jewish Museum

Figure 53
Diller+ Scofidio’s Blur Building

Figure 54
Alhambra
The following precedents have been selected for this thesis for several reasons. The design principles within these buildings will be examined and some will be incorporated throughout this thesis project. The buildings discussed below show how architectural design can implement meaning and create a particular experience. The Jewish Museum and the Alhambra both convey meaning through their design and particular design features. For example, the Jewish museum reveals a culture’s experience of the Holocaust through windows designed to represent wounds.

Jewish Museum, Berlin

The new Jewish Museum in Berlin is a deconstructivist structure by architect Daniel Libeskind, who lost most of his family during the Holocaust. In his design, Libeskind said he wanted to capture the cultural contributions of the Jewish citizens of Berlin, the tragedy of the Holocaust, and how ultimately, through a particular form of absence, life can have meaning and follow an optimistic, hopeful direction. In architecture one can’t be a pessimist, because the very nature of architecture is building, creating. 1

The museum opened on September 9, 2001. The building is located...
on the old border between East and West Berlin. The museum is clad with titanium-covered zinc a durable, stable, and malleable metal that reflects light. The museum rises from a base whose line is frequently broken and unwinds in a zigzag fashion.

The floor plan follows a fractured pattern similar to the Star of David that Jews were forced to wear under the Nazi rule. The 108,000-square-foot building’s special features include spiraling walls, sloping floors, a windowless Holocaust Tower, and symbolic lines of windows that resemble wounds.

The Jewish Museum Berlin, has become yet another Mecca for architecture enthusiasts; It drew an unprecedented 300,000 visitors during the 18 months between completion of the structure and its official opening. The edifice itself became an attraction in a city bursting with building fever.² Ironically, the museum has, as yet, nothing on display but itself.

A Jewish Museum in Berlin could not have been designed outside of the historical and emotional parameters of the Holocaust. Libeskind, a theoretician and intellectual, considered these matters in great depth in his design. To visit this new building, is an aesthetic and emotional experience of the highest order. Viewing the structure inside and out is akin to
immersion in a huge piece of sculpture. Libeskind’s sense of space and light and volume is calculated and precise.

The building is entered through the Kollegienhaus, an historic Baroque structure that was once a Prussian courthouse, standing immediately next-door. From there, a flight of stairs descends, tunneling into the main structure, a massive zigzag sheathed in a zine-titanium alloy, a material long and commonly used in Berlin buildings and present in the ornamentation of the Kollegienhaus. The old and the new, the city of Berlin and its Jewish community, are connected symbolically in this choice of material, as well as in the co-joined use of the old building with the new. The metal sheathing, currently still new and oxidized is expected to weather into varying shades.

Within the building, Libeskind created what he calls underground “streets,” each leading to a different part of the complex, each carefully reasoned as to both the practical and the symbolic purposes of the structures. One street leads to the interior of a freestanding tower, the lighter colored structure towards the left in the top photo, a memorial that Libeskind calls the “Holocaust Void.” Entering this un-insulated, non-climate-controlled space is to experience an instant sense of confinement.
Chapter 5: Precedents

The sloped floor has a rough finish, creating a sound like scraping sandpaper under foot. The acoustics amplify sound, which bounces off the towering, hard surfaces of the angled walls, windowless but for one vertical strip, where light penetrates near the top of the structure. It is a space calculated to evoke a disconcerting disorientation, emotionally evocative. At the same time it is an extraordinary piece of design. Through its proportions, composition, spatial relations, and textures, its statement is as powerful in its aesthetics as it is in its implied literal context.

Another of Libeskind's streets leads to an outdoor garden, again on a subterranean level. The E.T.A. Hoffmann Garden, said to represent the exile and emigration of Jews from Germany, is an enclosed concrete space with a 7X7 square space occupied by of 48 massive pillars, signifying the year (1948) when the State of Israel was founded. Each pillar is a planter holding at the top a willow oak tree. All but one of the pillars contain German soil; the other contains soil from Israel.

Libeskind’s third and most important street leads to a steep stairway, likened by some to Jacob's ladder from the Bible, climbing up to the exhibition spaces. Because of the steepness, it looks like an endless stairway from the basement level at to the base; the top that leads to a
dead-end wall. Looking down, from the top, the steps disappear from view; there seems to be no turning back.

The series of exhibition rooms on different floors surround empty courtyard spaces that Libeskind calls voids, “embodiments of absence.” He exterior walls are sliced with irregularly placed windows, some linear, some of geometric shape, adding a further element of light and line to the composition in both interior and exterior aspects of the building.

The two Holocaust-oriented structures, effective as they are, are secondary to the principal purpose of the building - a museum with a forward-looking perspective. By reflecting on the past, it helps pave the way to a more promising future. A paradox, perhaps, of Libeskind’s concept is that, while it is full of deliberately dramatic effects aimed at disorientation, the composition is powerfully controlled and balanced. At once functions emotionally, intellectually, and spiritually, as great art always does.

The Blur Building

The next precedent isn’t a traditional architectural space. The Blur Building in Switzerland, designed by Diller + Scofidio. The Blur building uses the ephemeral qualities of water and air to define its form. In this
instance, Diller + Scofidio used mist and fog to literally blur the boundaries of their structure. It appears to be liquid architecture.

The intent behind the Blur building was to create an experience that ultimately allowed the user to interact with the built environment and at the same time be enveloped within its formless form. Thus, the Blur building is as much about architecture of the material as well as architecture of the immaterial. Another design intent was to manipulate the way one senses the built environment.4

The Blur Building is a media pavilion built to accompany Swiss Expo 2002 at the base of Switzerland's Lake Neuchatel. Diller + Scofidio created a temporary structure of rectilinear struts and diagonal rods cantilevers out over the lake. The steel structural frame are anchored into the lakebed through concrete footings. This gave the structure stability and supported the platforms on which the Expo visitors could maneuver. From piles in the water, ramps and walkways weave through the cloud.

The pavilion is made of filtered lake water shot as a fine mist through 13,000 fog nozzles, creating an artificial cloud that measures 300 feet wide by 200 feet deep by 65 feet high. Using various forms of water mist, dew, fog and drinking water as the substance of its architecture, this
unpredictable building expands and produces long fog trails in high winds, rolls outward at cooler temperatures, and moves up or down depending on air temperatures. With computers adjusting the strength of the spray according to shifting climatic conditions of temperature, humidity, wind speed and direction, the resulting fog mass literally changes minute to minute in a continuous dynamic display of natural vs. man-made forces.

The public approaches Blur by using a bridge. The 400-foot-long ramp deposits visitors at the center of the fog mass on a large, open-air platform where movement is unregulated. Visual and acoustical references are erased along the journey toward the fog leaving only an optical “white-out” and the “white-noise” of pulsing water nozzles.

Once inside the cloud, visitors experience a “sense of physical suspension only heightened by an occasional opening in the fog,” states Diller. “It gives you the feeling of being part of a constant metamorphosis,” said Eva Afuhs, an artistic director of the Swiss Expo. “It’s like visiting heaven, as you also have the soundtrack of Maclay, which transforms the cloud into an enormous floating sound atmosphere.”

Visitors can climb another level to the Angel Bar at the summit. The final ascent resembles the sensation of flight as one pierces through the
cloud layer to the open sky. Here, visitors relax, take in the view, and choose from a large selection of commercial waters, municipal waters from world capitals, and glacial waters to drink. At night, the fog functions as a dynamic, thick video screen.

Finally, it is important to note that the Blur building has a very discernible shape hidden behind its “liquid” skin. This is especially evident once the jet sprays that produce the mist are turned off. However, it is the skin -the water- that gives the Blur building its character, its essence and its form. The Blur building challenged the conventional notions of architecture: form and function. Does architecture define itself through the physical make-up of its components whether solid, liquid, gas? Or does architecture extend its parameters to include the essence and the experience of the form?

Alhambra

The locus classicus, the highest ranking place, for the use of water in architecture is the Alhambra. The Alhambra is a massive fortress and complex of palaces; It occupies the crown of a hill and overlooks the lower part of the city. The Arabs called it “Al Qal’a al-Hamrá,” meaning “red
Figure 78
Axonometric drawing of the Alhambra showing the water locations
castle.” The Alhambra contains four major sections spread out across the hills overlooking Granada: the Alcazaba, the oldest section of the fortress; the Alcázar, the royal palace and living quarters of the sultans; the Palace of Carlos V, a Renaissance masterpiece; and El Generalife, the beautiful garden summer retreat of the sultans.

The Alhambra is patterned after the sun and water. The composition is not cast in the single four square pattern of the ancient Persian rugs or gardens, but is a collage of several patterns of structures unified by water. Alhambra uses water to connect the walled gardens. Although each garden uses the water differently, the theme is woven through the complex.

A typical pattern includes a space opening into a central courtyard with a water feature. A small opening in one of the four walls leads through an irregular passageway into another court, arranged around another water feature.

The axonometric drawing shows the heart of the palace, the adjoining gardens, and the palace of Charles V in the background. The gardens of interest are: the Cuarto Dorado, the Court of the Myrtles and its adjacent rooms, the baths, and the Court of the Lions and the rooms adjacent to it.
The Cuarto Dorado, the first garden space inside the present public entrance to the palace, is a small rectangular court. In the center of the marble floor is an octagonal depression, which holds a round fountain. The fountain symbolizes the beginning of the journey through the Alhambra. The south face of the court offers a pair of identical openings, one leading back to the entrance, the other leading into the Court of the Myrtles and the rest of the palace.

Four times larger than the Cuarto Dorado, the Court of the Myrtles has a 24-by-114-foot pool in its center. The pool's stillness is emphasized by the water splashing into it from little chutes from that emerge from circular fountains at its two ends. The smooth water casts dancing patterns of sunlight on the highly decorated walls surrounding the court. The long side walls of the Court of Myrtles play down the openings, which lead to other parts of the palace. One undistinguished opening leads to the baths, which are at a much lower level than the large courtyards. Another modest opening in the same wall leads through a tiny dark passage to the most celebrated of the gardens, that around the Court of the Lions.

Spatially, this is the most complex of the Alhambra's areas. The court is rectangular and much smaller than the Court of the Myrtles. A
portico that becomes a projecting pavilion on each of the two ends
surrounds the Court of the Lions. Behind those pavilions are long narrow
rooms, on axis; the room to the west is plain, the room to the east is the
Hall of the Kings. In each of the four directions, the rooms have views of
the fountain-fed marble channels as they slip down steps to the center of
the court. There, another fountain is extraordinarily held aloft on the backs
of lions.

Just east of the Court of the Lions, the gardens open up in a
geometric pattern, but with fewer buildings and more greenery than in the
other areas. There is a single tower facing Mecca, the most holy city in the
Islamic religion. The garden has a series of rooms with their own reflecting
pools. All the reflecting pools come together and flow into a large pool in
front of that tower.

Here a variety of pools, fountains and irrigation channels enchain
the delicacies of architecture in a network of connections, reflections and
elaborations that come close to bridging the separations made by
architecture. A new Eden surrounds you with trees, bushes and flowers,
flourishing because of the water. In the entry court, a small burble of water
heightens the clean serenity of the stone pavers. Power and place center in
the Court of the Lions, and distribute their beneficence to define edges of
the courtyard. Gravity connects channels and pool’s surface in the Court of
Myrtles doubles forms, muddles distinctions and continues a decorative
activity that weaves all together, rather than creating distinctions. It is not
just the eye that delights. The coolness of the air, the scents of the fresh
water and even the implied touch of water on the skin convert the buildings
from something seen by expert eyes.

While all Muslims are guaranteed a place in Paradise. Muslims
consider the Alhambra paradise on earth. The layout and progression
through the Alhambra can be compared to entering God’s holy kingdom.
Everything leads one toward paradise, from the Cuarto Dorado, fountain at
the entrance, to the reflective pools in the Court of the Myrtles and the
Court of the Lions. All of this symbolizes the steps people have taken to
get to this point. Proceeding through the Court of the Lions one reaches the
paradise garden. The garden serves as the religion’s holy ground. The
individual reflecting pools feeding into the large pool in front of the tower
facing Mecca suggest that the water is carrying the prayers back to the
tower and then to Mecca. Consequently water is essential to the design and
purpose of the Alhambra.
The design principles described in these precedents incorporate what the theme of this thesis. The buildings discussed above show how architectural design can implement meaning and create a particular experience. The Jewish Museum and the Alhambra both convey meaning through their design and particular design features. For example, Libeskind has created a room for people to experience the feel of the Holocaust chamber. Alhambra’s meaning is for individuals to reach God’s holy ground, the garden. And finally, the Blur building literally uses water as a design tool by using its different forms to create space.

1 Bernhard Schneider, Daniel Libeskind Jewish Museum Berlin. 1999
2 Bernhard Schneider, Daniel Libeskind Jewish Museum Berlin. 1999
3 Bernhard Schneider, Daniel Libeskind Jewish Museum Berlin. 1999
4 Diller & Scofidio, Blur. 2002
5 Diller & Scofidio, Blur. 2002
6 Moore, Mitchell & Turnbull, The poetics of Gardens. 1988
7 Moore, Mitchell & Turnbull, The poetics of Gardens. 1988
Chapter 6: Site Programming
Situated on a hill, Eden Park is located northeast of Cincinnati’s downtown, on Gilbert Avenue between Elsinore and Morris. Home to Nicholas Longworth’s vineyards in the 1860s, the millionaire named the 187 acre site after the Garden of Eden and subsequently donated to the city. Today it serves as a neighborhood-gathering place and public park for all Cincinnatians. Several cultural institutions, call Eden Park home, including the Cincinnati Art Museum, Cincinnati Art Academy, the Murray Seasongood Pavilion, the Irwin M. Krohn Conservatory, and Playhouse in the Park. The park also contains historical buildings, and numerous cultural landmarks.

Because this project has the potential to weave together the different cultural and historical threads of Eden Park, it is important to take a closer look at the other buildings in the park.

Among those memorials and landmarks, the Eden Park Environmental Center will find a natural home. The specific area of the park selected for the environmental center is the old reservoir site. Park Side Lane roughly borders the site on the north, old Waterworks Building, on the south, Mirror Lake, on the east, and the dam and west of Martin...
Drive on the west. Recreational fields, basketball courts, and open green space currently occupy the space. The walls of the old reservoir and dam are used for recreational climbing. Many different events taking place over time and the people involved in these happenings have helped shape Eden Park into a cultural, social and historical shrine. All of this has contributed to the overall meaning of the area.

Eden Park is home to the Cincinnati Art Museum. The original Romanesque building was built in 1886. The Classic Revival wings were added in 1907 and 1928. The Art Museum was fully renovated in 1992 to restore architectural details which had been covered over for many years. The museum is an important educational resource for the region. It is one of the country’s 15 largest art museums housing 5,000 years of art and artifacts for reflection or study.

Since its construction in 1886, the art museum has provided a home for the Cincinnati Art Academy. The three-story 26,000-square-foot building was built to provide a variety of spaces both for academic and studio use. The main academic areas of focus are Fine Arts and Communication Art.

Located along Art Museum Drive is the Murray Seasongood
Pavilion, erected in 1959. Martha S. Stern gave the pavilion to the city to commemorate the services of her brother, former Mayor Murray Seysongood. North of the Art Museum and the Art Academy is the Krohn Conservatory, a “Greenhouse Gothic” structure made of metal and glass. One of Cincinnati’s major tourist attractions, the Krohn Conservatory opened to the public in 1933. It houses 25,000 square feet of horticultural displays, featuring plant materials from all over the world. Six special shows are presented annually. The Conservatory, open every day of the year, was named in honor of Irwin M. Krohn, who served on the Board of Park Commissioners from 1912 to 1948.

In the center of Eden Park sits Mirror Lake, covering part of a city reservoir. West of Mirror Lake are the stone ruins of the old reservoir, constructed in 1866. The massive walls were partially demolished in 1962 to allow for a new underground reservoir. In 1987, the beauty of the lake was enhanced by a fountain, which shoots water 60 feet into the air. The fountain was the gift of Mrs. Standish Meacham Jr. and his mother, Eleanor Meacham. Mrs. Meacham served as a Park Board Commissioner from 1957 to 1963.

Crossing Victoria Parkway and next to the old Eden Park Water Tower is
the Melan Arch Bridge, built in 1894. The bridge received recognition for its innovative concrete design. Stone eagles from the old Chamber of Commerce Building, which burned in 1911, were added to either side of the bridge.

Just north of Krohn Conservatory, on the hillside overlooking the Ohio River is the Ohio River Monument and Donald Spencer Overlook. President Herbert Hoover dedicated the Ohio River Monument in 1929 to commemorate the canalization of the Ohio River. The monument is a granite obelisk 30 feet high with bronze tablets. The overlook was later dedicated in 2002 in honor of Donald Spencer, founder of the Friends of Cincinnati Parks support group.

Entering Eden Park from Victory Parkway, on the left is the Twin Lakes area. This was once a stone quarry. West of the lakes is the bronze replica of the Capitoline Wolf, which was a gift from the Italian government. It was presented by the Order of the Sons of Italy in 1931. Also in this area is the Galbraith Memorial. It was erected in 1923 by the American Legion in honor of its first national commander, Cincinnati’s Frederick W. Galbraith. The memorial seat was erected in 1925 by the 136th Field Artillery, A.E.F. The 60-foot high memorial flagpole that was
dedicated in 1930, was relocated to the site of the Vietnam Memorial, just below the old Eden Park Water Tower.

Eden Park is also known for its memorial tree plantings. The largest is Presidential Grove, started in 1882 when the Forestry Congress met in Cincinnati. The grove contains a tree planted for each of the Presidents of the United States. In 1982, the American Forestry Association held the opening ceremony of its National Conference in Cincinnati at the grove to commemorate the centennial of its first national conference in 1882.

Beyond Presidential Grove is Heroes Grove, with oak trees planted in 1876 in memory of the heroes of 1776. A second Heroes Grove, located south of Eden Park Drive near the Gilbert Avenue entrance, was planted in 1919 by the Mothers of Democracy in memory of Cincinnati men and women who lost their lives in World War I. Located in the same area is Pioneers Grove, which contains trees planted by the Forestry Society in 1882 in honor of the pioneers of Cincinnati.

Among the other historical structures in the park are the 172 foot tall Eden Park Water Tower, completed in 1894, and the castle-like pump station. In early years, water from the pump station was thought to have medicinal qualities. The public carried away 100 barrels of water daily until
1912 when it was sealed because of contaminates.

In the center of Eden Park sits Mirror Lake, covering part of the city reservoir. West of Mirror Lake are the stone ruins of the old reservoir. In between Mirror Lake and the stone ruins will be an Ecological Center. This center will complement and unify the park’s existing features.

The Eden Park Ecological Center could not exist in any other place other than Cincinnati’s Eden Park. The Eden Park site was selected because the origin of its name and what it symbolized. Eden Park was named after the Garden of Eden. The Garden of Eden speaks of the utopian environment. That was a dramatic contrast to the grimy city of Cincinnati. The current state of today’s environment, however, is far from perfect. There are many issues today surrounding how the environment is being handled: from water quality to the rain forests being cut down to the Amazon jungle being turned into agricultural fields. The specific site in Eden Park was also chosen because it is home to one of Cincinnati’s water reservoirs. As stated in previous chapters’ water is the lifeblood of all living things. Since this project focuses on the meaning of water this site couldn’t be more appropriate.

The idea of creating an Ecological Center was decided upon after
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studying the relationship between role of museums. Museums are often on the cutting edge of design and represent architecture’s current mode of thought, much like fashion, to use Kenneth Frampton’s terminology. Museums allow architects to reach out to the public and seek to build “image” buildings as a way of differentiating themselves. Some museums have stretched the idea of architecture as art so much that the reason why the building was constructed is lost. An example of this is Frank Gehry’s Guggenheim, where the building becomes much more interesting to observe than the art itself. Sometimes the concept of architecture as art is taken to the extreme, where the building gives more meaning than the artwork. Daniel Libeskind’s Jewish Museum in Berlin represents the Jewish culture in itself, without the artwork; in fact some have stated that the artwork is detrimental to the museum’s more powerful expression of the relationship between Berlin and its Jewish people. The best museums do not overwhelm the art, but they must meet the demands of a representative architecture. This is a delicate balance to achieve.

A museum’s programming examines the two most publicly visible aspects of museum work: exhibitions and programs. Standards for programming are designed to help the museum assess and tailor the range
of services it provides and enhance the opportunities it offers visitors. The basis for programming initiatives - from children’s education programs to adult programs - is a commitment to life-long learning that is central to the educational role of museums.

Museums offer a wide range of activities designed to help visitors interact and benefit from the museum’s resources. Exhibitions are the core of the museum’s public image. Exhibits provide a unique means of communicating with visitors, allowing them to experience and learn about objects from the museum’s collections. The Museum’s programming has a coordinated way of approaching the audience. Standards for programming are designed to help museums understand the services they provide, and how to enhance the opportunities they offer their visitors. Through this programming, museums respond to changing social conditions while maintaining a strong commitment to their particular mission and community.

This Ecological Center will be both similar and different to museums. The center will be structured similar to a museum with exhibitions and programs. But, unlike museums the center will focus on the environment. It’ll examine local, regional and worldwide environmental
issues. The goal behind the design of this center will be to strike a balance between the meaning behind the building and the exhibitions inside of it. One is not to overpower the other, but to complement one another and allow each to serve its individual purpose.

- Instilling meaning and experiences into the design by using purification, boundary, and axis mundi.
- Water will be the unifying design principle throughout the center that ties all of the exhibits and programs together. It’ll also tie the building to its surrounding environment.
- While much of the outside of the center will be tied back to Eden Park’s heritage the inside of the center will discuss the state of the World environment.
- The Ecological Center will inform the community with what is happening to the environment.
- The Ecological Center will educate society through technology. Some of the technology will allow the visitors to feel as if they’re experiencing first-hand a walk through nature in another part of the world.
Listed below are the programmatic pieces that will be found inside of the Eden Park Ecological Center. There will be several venues in which to choose from to experience nature. Various exhibits, Virtual reality pods, and centers are situated inside and outside of the structure.

- The **great hall** will have exhibition galleries, the museum shop (800 sqft) and the café (800 sqft). This area will also provide welcome and orientation space for tours and student groups (800 sqft).

- **4 Virtual Reality pods** presented in 10-seat pods will use sound and light, to present a program incorporating different ecological events.

- The **education center** will have classrooms for two-to-four workshop/classroom spaces for school programs and lectures (900 sqft each).

- The **overview exhibit** “Cincinnati Perspectives” is designed as an opportunity for visitors to connect with the city as a whole, both in time and space and through people and events.

- **Exhibit galleries** will feature exhibits developed in
partnership with neighborhood and community groups. The museum will open with exhibits on its neighboring communities, Mount Adams and Mount Lookout neighborhoods.

• The **changing exhibition gallery**: Flexible exhibit space will be available. Here exhibits will vary from season to season and will feature various exhibits as they travel to different museums around the country.

• **Outdoor Gallery**: This gallery will exist around the entire building. As landscape and water features exist throughout Eden Park. This area will be visible from inside the building as well. These spaces will be accessible to people by people walking around Eden Park.
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Chapter 7:

Conclusion
Water, life-giving and sustaining, has always played a role in architecture, from Roman times, when aqueducts were built to deliver water between communities, to the new Blur building, which actually uses forms of water as its walls.

The physical properties of water are used to give shape to architectural designs. For example, water can be used to reflect other objects or form boundaries between them. It is the metaphysical properties, however, that make water such a valuable design tool. Because it is so culturally rich with symbolism, water can give meaning to built form.

Such symbolism can be seen in the four rivers that originated in the center Garden of Eden. They flowed from a fountain outside the walled garden, nourishing the surrounding environment. Symbolically, the waters also serve to purify the area, purification being something people continually seek.

The Eden Park Ecological Center embraces the metaphysical qualities of water and embodies some of the characteristics of the Garden of Eden. Its central location in Eden Park and the old reservoir wall incorporated into its design are reminiscent of the original paradise garden. The programming to be offered there is intended to enrich the lives of
visitors, just as the waters of Eden’s rivers fed the area beyond the garden itself.

As the ecological center demonstrates through its design and programming, water is a powerful architectural tool. Because of its many metaphysical properties, water lends meaning to the built form.
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