

A special recognition for influential individuals...

Rick and Julie Warner - for their unconditional love and support

Steve Martens - for instilling structural and ethical principles, and always keeping a warm heart and an open ear

Malini Srivastava - for teaching optimal design strategies, and setting an exemplary example of courage, creativity, and perseverance.

Joshua Highley - for a shared passion for the cosmos, as well as supplying revolutionary perspectives which profoundly influenced the design

Alexander Wenthe - for assisting in development of ideas, and providing insight into the depths of the Internet

HORIZONS

Bridging the Finite and Infinite to Rekindle
Mankind's Cosmic Affinity

HORIZONS: Bridging the Finite and Infinite to Rekindle
Mankind's Cosmic Affinity



Primary Thesis Advisor



Thesis Committee Chair

A Design Thesis submitted to the Department of
Architecture and Landscape Architecture at North
Dakota State University

By:

Aaron Warner

In Partial Fulfillment of the Requirements for the
Degree of Master of Architecture

May 2017
Fargo, North Dakota

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THESIS ABSTRACT

Since its dawn, mankind's revolutionary inventions have drastically influenced culture, redefining standing standards and practices for the sake of progress. The 21st century is just beginning, with many major technological developments shaping, influencing, and inspiring coming generations. Such developments include the increasing public knowledge of the Cosmos, and the increasingly captivating digital media, which is proving to be a cornerstone of current culture. Architecture can embody such developments, embracing the shift from traditional methods and ideals. By doing so, it can itself also become a cornerstone in culture, providing space for meaningful gathering, learning, and enlightenment.

Title: Horizons
Typology: Observatory
Site: 48° 36' 48" N, 122° 24' 56" W, Samish, WA
Project Size: 107,000 sq. ft.

THESIS NARRATIVE

CONTEXT Seattle, Washington has a renowned reputation and culture of innovation and cutting-edge tech, providing a perfect cultural foundation for cosmologically oriented architecture, dubbed Horizons. Capitalists such as Bill Gates, Bill Boieing and Jeff Bezos began their ventures to success here, practicing philanthropy to enhance the city they love, and ultimately benefiting the local outlook and well-being. Samish lies north of Seattle at the base of the Northern Cascades mountain range, allowing convenient proximity and ample separation from the heart of civilization.

PREMISE Parallels can be drawn between the Cosmos and our modern created digital worlds, primarily the seemingly limitless measure and potential to which their boundaries can extend. Such potential can instill a fear of the unknown, but can also inspire optimism and hope for the future. As mankind pushes their exterior boundaries, of both the knowledge of the universe and civilization's vertical borders, it also pushes its interior boundaries, developing digital realities birthed by imagination and creativity. As the Internet is a relatively new and revolutionary tool, its effects still being determined; its ability to rapidly provide and share information undoubtedly has wide-spread implications on the general population, allowing for a convenient acquisition of knowledge. What once took years and diligent effort is now widely accessible, creating a noticeable chasm between traditional and modern learning.

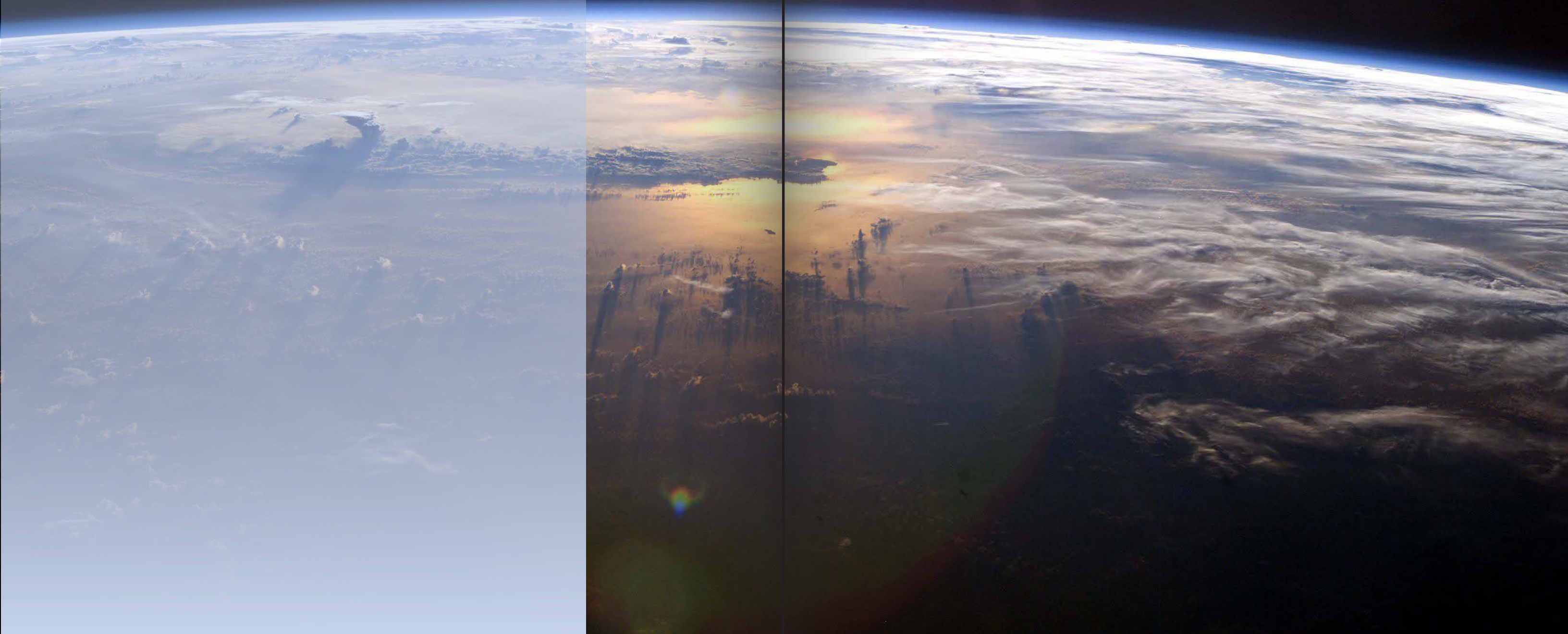
If mankind wishes to progress intellectually alongside its technological innovations, the chasm must be bridged. Only once the bridge is established between digital and tangible, past and future, art and science, will our created spaces be truly revolutionized, maintaining the increasingly delicate balance between exterior and interior. All demographics are experiencing this, the integration of Internet in every-day life irrefutable. After mankind's internal conflicts are resolved, its external problems can then be efficiently and objectively pursued, in this instance the fragility of Earth and possibilities for interstellar colonization. Nonetheless, Architecture must understand and incorporate digital technologies effectively and creatively if it wishes to define current culture, consequently defining the future.


SOLUTION Architecture, historically, has widely been a response to culture, influenced by popular trends and media physically and ideologically. By embodying the Cosmos and integrating digital technologies into built environments, these trends can physically manifest themselves to create spaces truly more captivating than the Internet itself. Using all the possible tools at its disposal, Horizons incorporates laser, holographic and digital technologies to create a holistic, relative and interactive environment, meanwhile educating its occupants on mankind's context, both chronologically and cosmologically. The major elements within and throughout are placed and inspired from the stars above, relating well with humanity's history and its future, as ancient man emulated the stars for both answers and enlightenment. It also includes plentiful space for gathering, both small group and community, optimized for collaboration and enjoyment, encouraging reason to visit for purpose and appeal.

HORIZONS


Rekindling Man's Cosmic Affinity within
an Infinite Context

Mankind's developing relationship with the cosmos has been a fundamental component of human civilization, heavily influencing both disciplines of science and art and their resulting inventions and creations. As humanity's observational tools have evolved alongside its technological progress, so too has our sense of scale and place within the cosmos.






Since the widespread acceptance of the computer - and its poster child, the Internet - digital technologies and media have become a staple in modern society, now being increasingly utilized by the general population. Our digital technologies have assisted in the learning about the cosmos, but as they continually evolve, the possibilities for cosmic learning evolve as well. Now, the widespread acceptance of virtual reality, as well as laser and holographic displays, are on our doorstep, their advertisement and promotion already regularly occurring in popular digital media. These can be applied within the scope of architecture, enhancing our built space with digital technologies for greater visualization and interactive experiences to progress alongside the Internet and its coming virtual immersion and hyper-realistic interaction.

A digital globe of Earth is the central focus, constructed from a dense field of blue particles and glowing lines that form the continents and oceans. The globe is set against a dark, starry space background with a gradient of blue light. A vertical line divides the globe into two halves. The text is positioned in the lower-left corner of the image.

As our ingenuity races at breakneck speed towards future space colonization in the next century, mankind possesses ever-expanding digital technologies that can assist with the visualization and learning about the cosmos. These technologies are a blend of science and art, using the innovation of science to create immersive digital environments birthed by human imagination. It was the past development of both science and art in relation to the cosmos that has propelled and inspired countless theories and technologies to deepen our understanding of the universe.



Early cultures identified the cosmos with gods and spirits, providing an explanation for phenomena occurring in the surrounding environment. Buildings were erected emulating the stars above, and calendars were created resembling the Sun and Moon's celestial motion. Mankind peered into the depths of the cosmos and discerned meaning and order from its arrangement.

The earliest building site with definite cosmological relation is the Newgrange Tomb in Ireland, which dates back to 3,200 B.C.



3 2 0 0 B . C .



3200 B.C.

It is adorned with several symbols that resemble the sun, and two weeks before and after the Winter Solstice, light passes through its main entrance to illuminate the entire central passageway.

The most widely famous built site for astronomical use is Stonehenge, dating back to 3,000 B.C.

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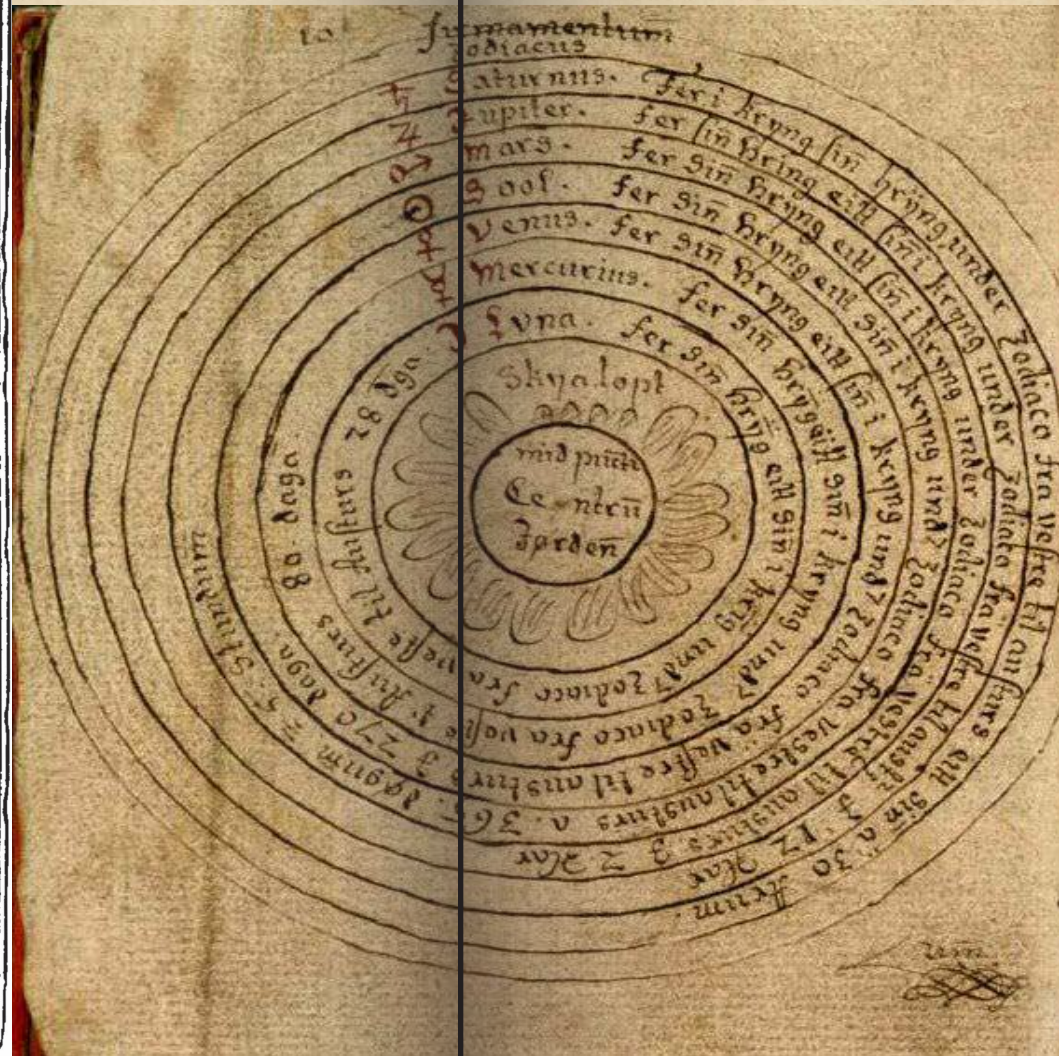
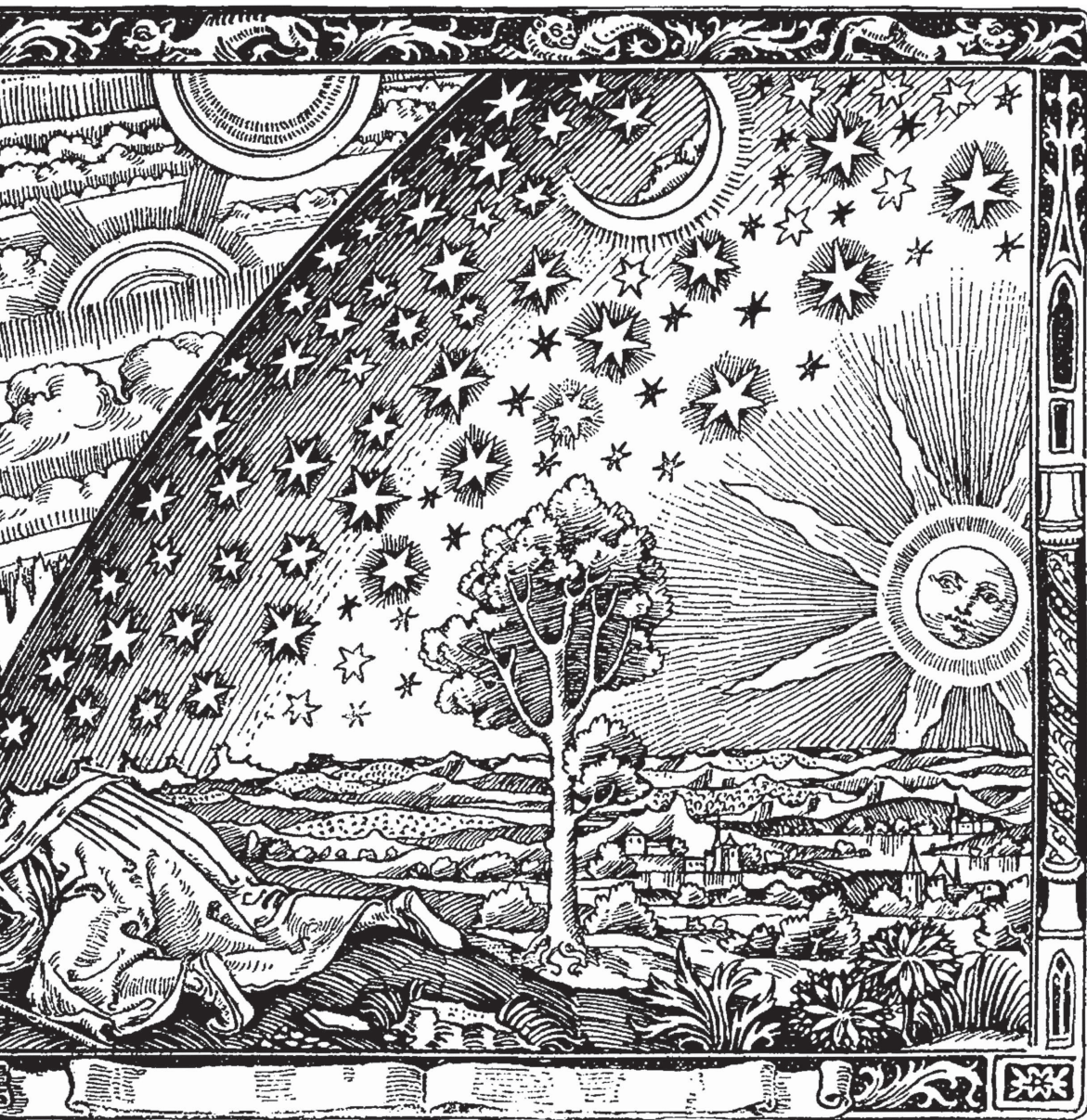
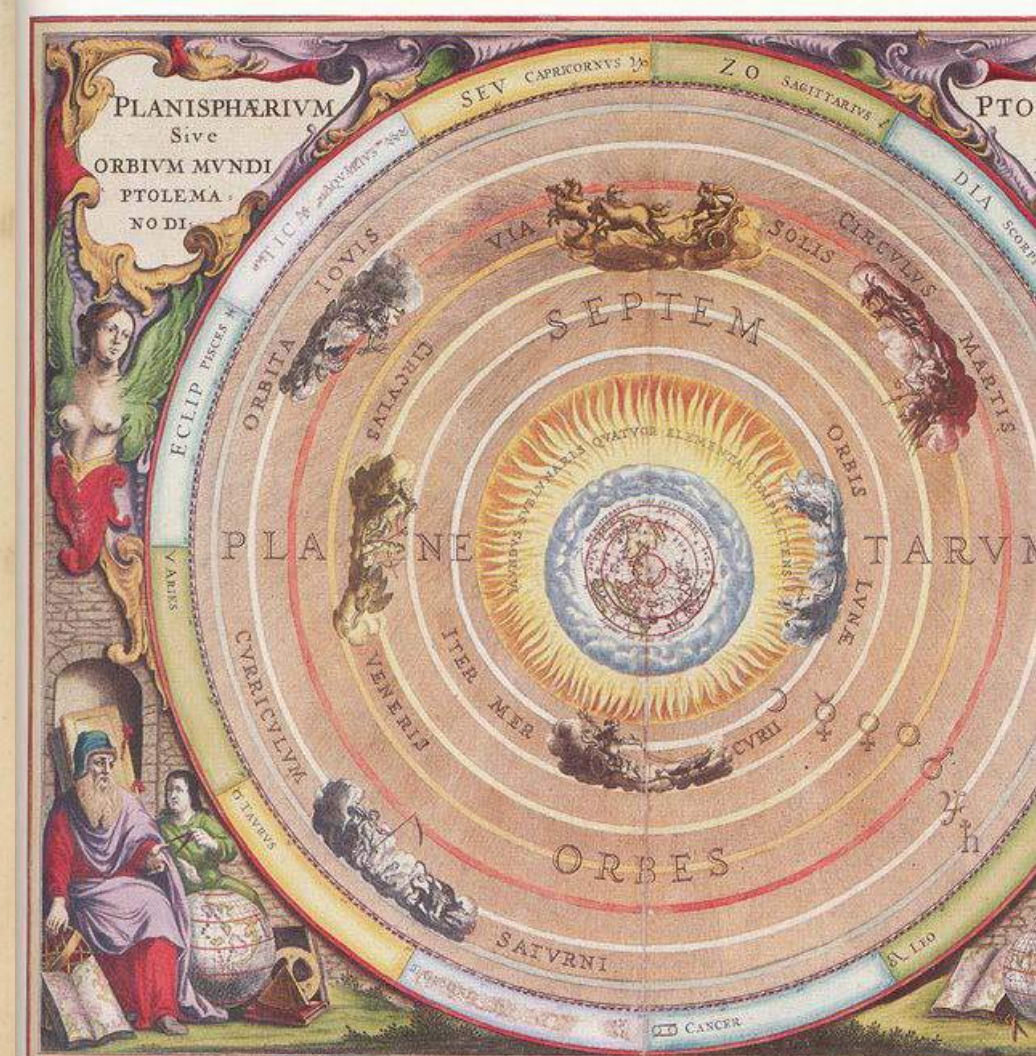
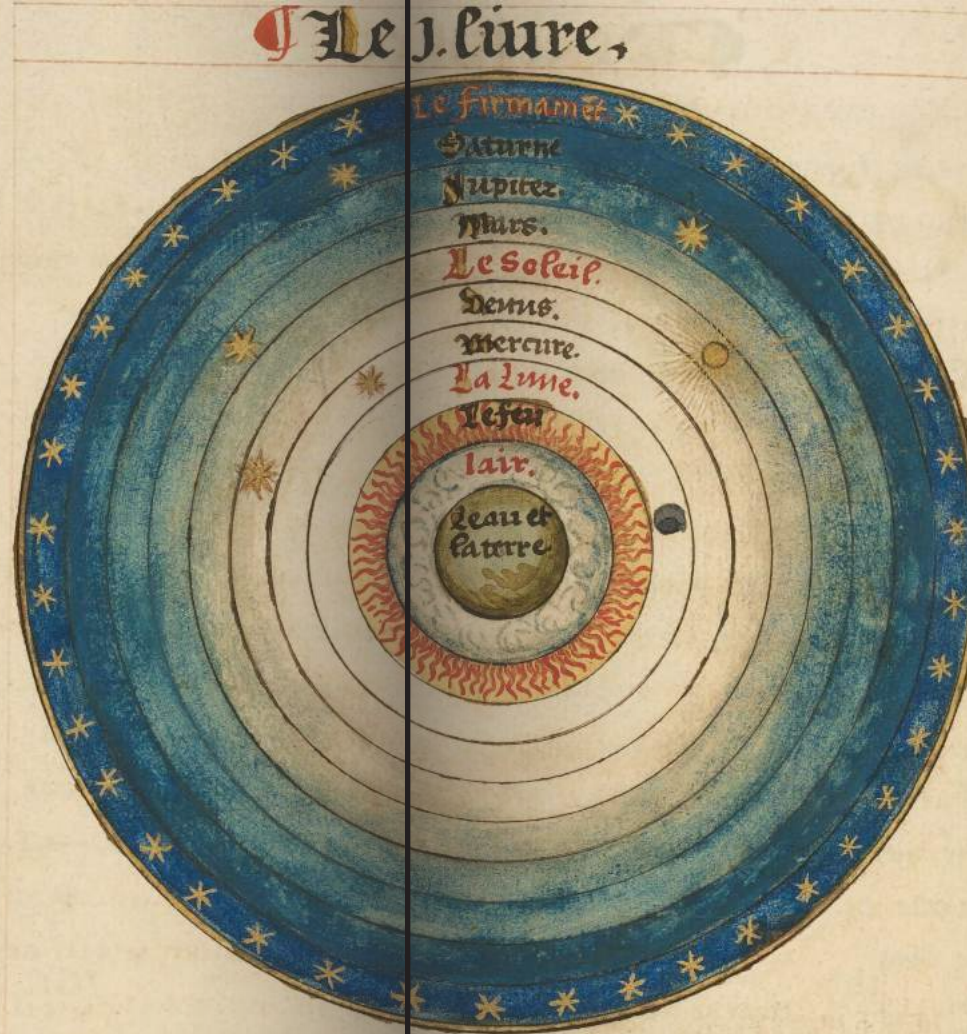


Some believe the stones' alignments helped to predict solar and lunar eclipses, but the most agreed upon cosmic relation is the main arrangement facing the horizon where the sun rises on the Summer Solstice, most likely for religious significance.



3000 B.C.

Whichever ancient culture we observe, we can be certain that they all determined Earth at the center of the universe. The Hindus saw the sky resting on an enormous elephant's tusks, the Egyptians saw an arched body of the goddess Nut, and the Babylonians saw the sky as the inside of an immense bell jar.



The introduced philosophies of Plato complemented these world views, built upon the perfection of circles, spheres, logic and deductions instead of the limited human senses. This new world view was captured in the *Almagest*, written by Ptolemy of Alexandria, a famous ancient Egyptian astronomer. Using Plato's perfect system, the *Almagest* recorded the positions and apparent magnitudes of over 1,000 stars, proving to be extremely valuable to every astronomer for the next 1,500 years, up until the 16th century.



150 A.D.



1540 A.D.

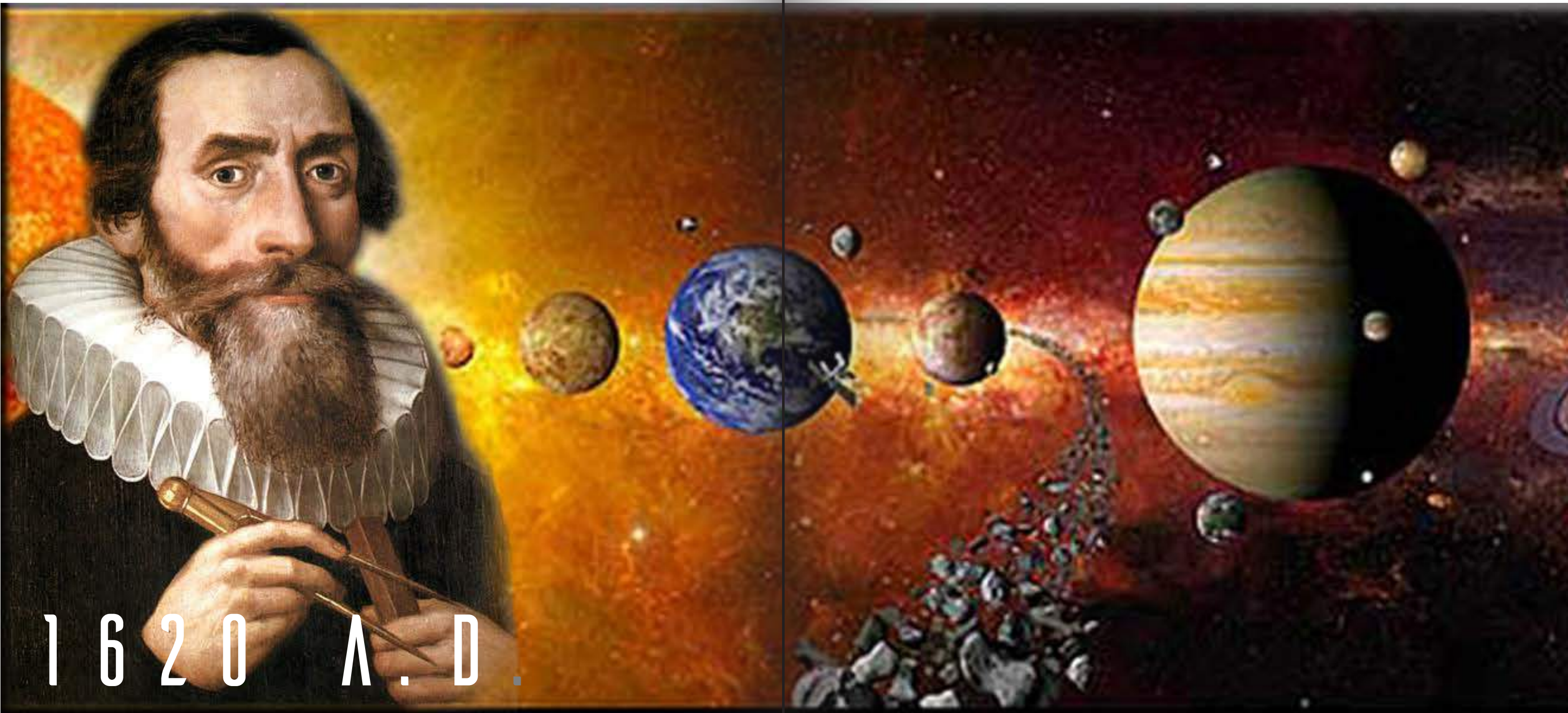
Nicolas Copernicus, himself a cleric as well as Renaissance astronomer and mathematician, was not the first to propose the sun at the center of the known universe instead of the Earth, but had his heliocentric notion published on his deathbed. His new celestial model greatly resembled Ptolemy's, and was just as precisely calculated, but was not yet widely accepted.

Soon after, Galileo Galilei proposed his astronomical ideas using the new scientific method and telescope, discovering spots on the sun, mountains on the moon, several moons orbiting Jupiter, and the orbital phases of Venus, directly contradicting the established Geocentric model. Although he did not invent the telescope, he greatly improved its magnification abilities, resulting in a vast change in the accuracy humanity could observe the cosmos.



1600 A.D.

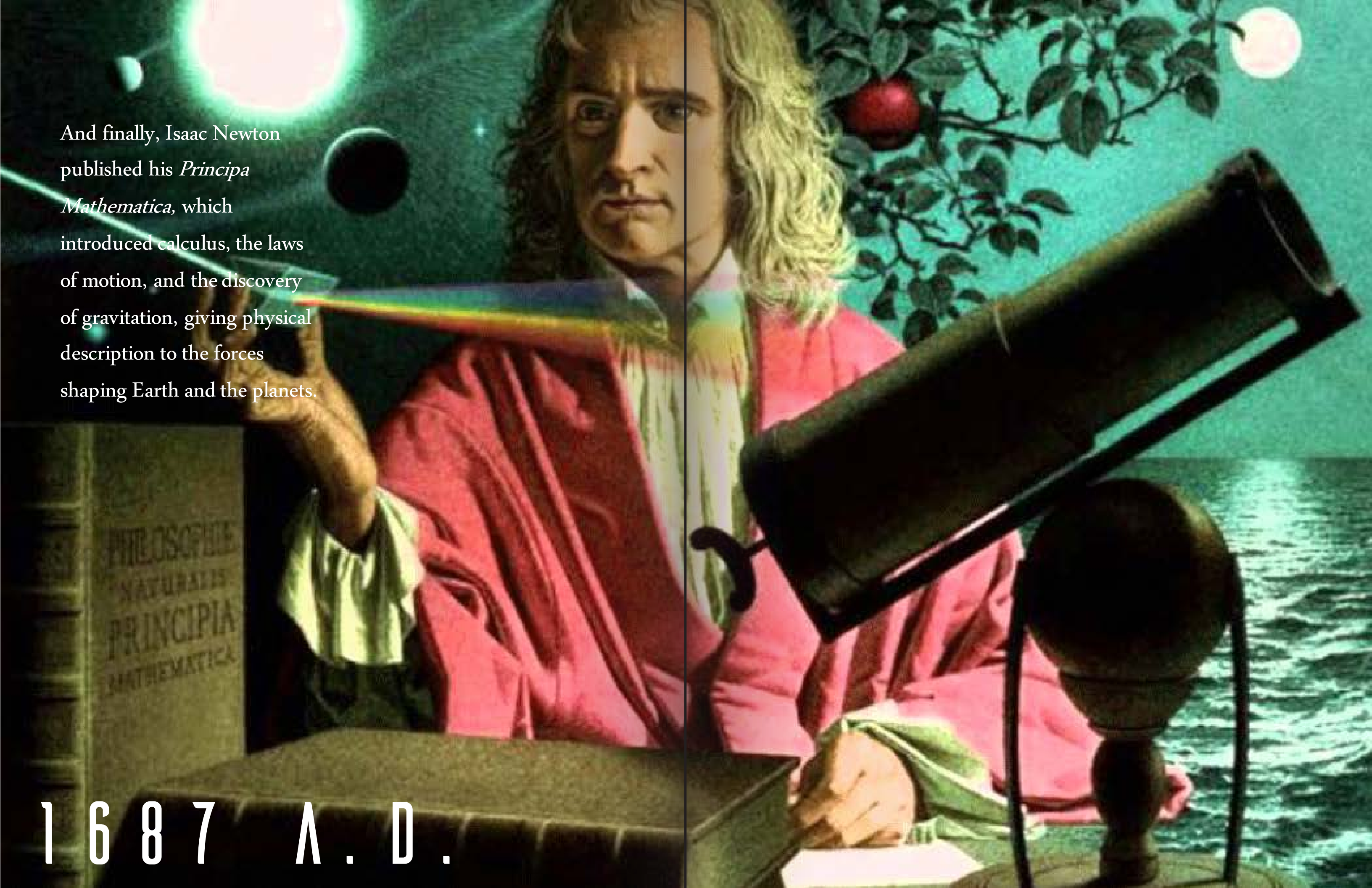
Then, Johannes Kepler reconciled planetary motion, noticing that the planets' movements across the sky could be better explained with motion in the shape of ellipses.



1620 A.D.

And finally, Isaac Newton published his *Principia Mathematica*, which introduced calculus, the laws of motion, and the discovery of gravitation, giving physical description to the forces shaping Earth and the planets.

1687 A.D.

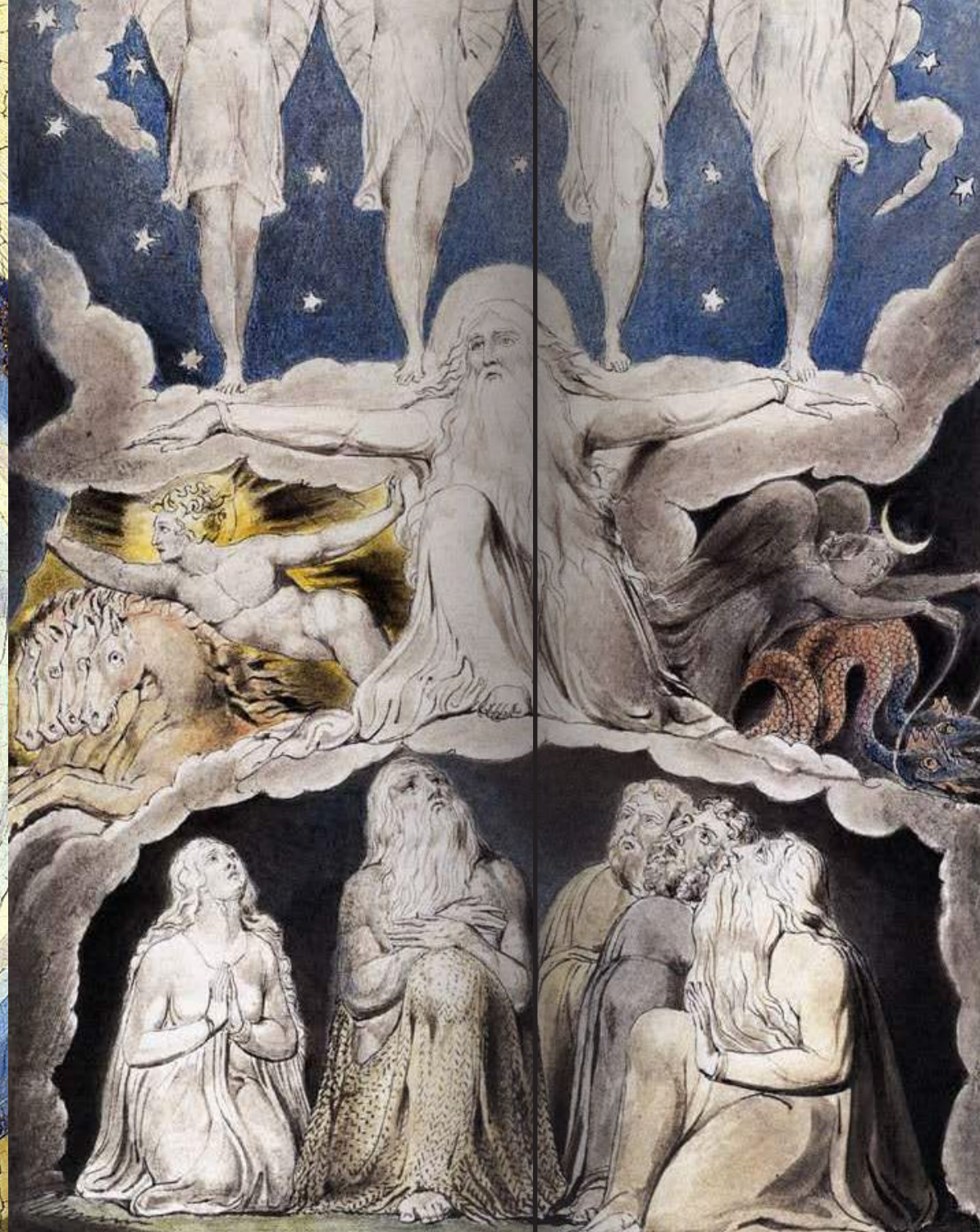




Since Newton and his predecessors' discoveries, humanity has known its true existence and place within the cosmos. Since the further improvement of telescopes, i.e. Hubble, we now know that our solar system revolves around the center of the Milky Way Galaxy every two-hundred million years, and is only one of billions of galaxies swirling, spinning, and hurtling across the universe near the speed of light.



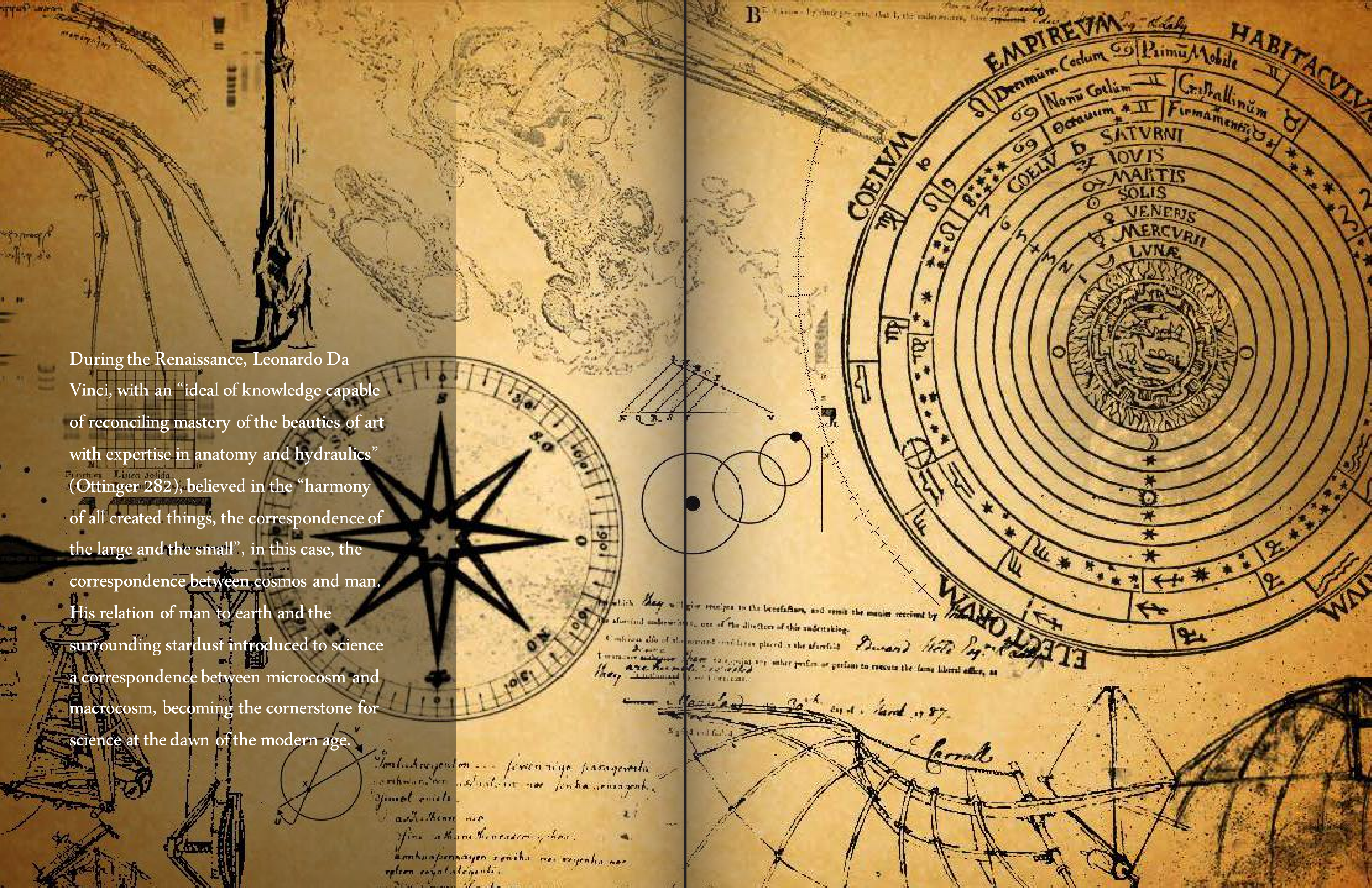
With such an enormous context, mankind may feel insignificant, the scope and depth of his context beyond complete understanding. As these discoveries were made, artists helped translate the cosmos through their creative works, successfully bridging the gap between legendary astronomers and the common folk.



There are “three distinct periods in art’s association with astronomy — the Renaissance, the age of Romanticism, and the modern times — and their corresponding tutelary figures: Leonardo Da Vinci, Caspar David Friedrich, and Marcel Duchamp.

Works in the first group create nostalgia for a time when the artist was not yet distinct from the scholar. Works in the second evoke the time of the schism between intuition and objective knowledge. Those in the last demonstrate the irony generated by a scientism reduced to ‘technologism’, to the cult of the machine.”
(*Contemporary Cosmologies*: Didier Ottinger 282)

During the Renaissance, Leonardo Da Vinci, with an “ideal of knowledge capable of reconciling mastery of the beauties of art with expertise in anatomy and hydraulics” (Ottinger 282), believed in the “harmony of all created things, the correspondence of the large and the small”, in this case, the correspondence between cosmos and man. His relation of man to earth and the surrounding stardust introduced to science a correspondence between microcosm and macrocosm, becoming the cornerstone for science at the dawn of the modern age.



In the age of Romanticism, Casper David Friedrich played with these notions of “limited and limitless, finite and infinite, precise and imprecise” in his works, which communicated the paradox of man. Before, man was framed in the center of the universe. Now with a newfound perspective, his works imply irony yet beauty in framing the infinite alongside the miniscule mankind. At this time, a poetic distance lay between the general population and the stars above, bringing about fear of the unknown but also inspiration and hope for what yet lies ahead for humanity.



Enter the modern times, defined by the widespread distribution of information to the general population and the accelerating development of new technologies. The necessity for artistic depiction of the cosmos declined, as “the use of the telescope for astronomical observation, while it marked the triumph of a rational vision, also signaled the decline of the gaze.” (Ottinger 286)





Once inseparable, astronomers no longer needed artists to relate the cosmos to the rest of humanity, telescopes now being able to accurately photograph the depths of space. The substantial progress in observational technologies, “while it also brings the farthest reaches of the universe closer, also represents a perceptible distancing of man from the cosmos.” (Ottinger 286)

The personal relation and participation through art was replaced with literal depictions, dissuading interest and inspiration for what lies beyond Earth’s atmosphere, that is, until the recent developments of our digital technologies and the increasingly popular virtual reality.



Now, the increasing power, depth, and immersion of our digital technologies has the ability to not only accurately replicate, but introduce creative interpretation and interaction with the cosmos. The poetic distance and involvement of the general public, temporarily disregarded in the age of science, can be transferred and incorporated within the digital depictions of the cosmos founded by innovation and popularized by creativity.

As mankind gears up for another space race, digital artists and designers can once again invoke and inspire, integrating the potentiality of the digital to create personal interaction and engagement with the cosmos to ensure the future of the human race, dependent on the willingness of society to embrace the stars as its next frontier.





WRITINGS

Aaron Warner

Current Architectural Theory – S. Wischer

12/1/2016

Horizon

The following pages serve as a depiction of a quest for knowledge with a primary objective in mind, the search for a rock-solid theoretical foundation which to place my coming thesis upon. Old and new philosophies have much more in common with Architecture than one may suppose, both heavily considering the current condition of present and future mankind. The following brief analyses of readings depict my personal quest through these readings, searching for a primary meaning, an ultimatum which proposes questions and problems just beginning to be unsurfaced in the modern era. This discovered meaning is a direct response to a few current phenomena which are rapidly dominating cultures across the globe, being: the evolution rate of technology, specifically in the fields of virtual reality; the trends and implications of social media, and all digitized information outlets; and finally, the increasing gap between education and learning. I did not happen across these major points, rather discovered them while examining and understanding past philosophies, unraveling proposed questions which coincidentally drew parallels to modern-day culture. This paper shifts the focus of previous writings from understanding development of thought processes to their applications within the field of architecture and the current human condition, and specifically within my thesis project, Horizon.

In Samish, Washington, over an hour north of Seattle, I would propose a Cosmic Learning Center, or Horizon, to be constructed on the hilltop overlooking the Northern Seattle-area countryside, Washington's mountainous landscape, and direct Pacific views. This building would serve as a hub and pinnacle for learning about the universe beyond Earth, with the ability to replicate and contextualize the Cosmos on a relative, personal and interactive level. I propose that the stars have never seemed nearer, and with current or coming technologies we can educate and inspire generations to come.

Why is a glorified planetarium even relevant in today's day and age? Well, unfortunately for the human-race, Earth is not permanent or even sturdy, and considering current global issues of climate change and maximum population capacity, us Earthlings can't sit on our hands and wait for a solution to present itself. Mankind needs insurance, and putting all our faith in Earth's delicate atmosphere and humanity's capacity to rapidly change may simply be too little, too late. Mankind needs an alternative, but first, Mankind needs to understand. Understanding is Horizon's ultimate goal, understanding the geometries and forces of the Cosmos beyond, the Sciences and theories, and the matter below our feet; but also understanding context, our place in the universal scale, as well as our place in relation with one another, and the impact we've made, and yet can still make. The following analyses are organized chronologically to lead up to this final revelation, the reason for Horizon.

The Intellectual Adventure of Ancient Man: H. Frankfort

Frankfort tackles the development of the intellect of ancient Man. He specifically targets the nature of Man, and his uncanny ability to solve problems, even problems lacking concrete solutions. This

led to proposing questions and answers which inevitably evolved into the concept of Religion and other belief systems, which “claim recognition by the faithful; it does not pretend to justification before the critical” (7). Frankfort ventures to say that speculation is not merely a modern mode of thinking, that it was primitive humans’ abilities to think speculatively that led to the development of belief systems, providing answers and solace to those questioning the very nature of our world. Since the primary method of attaining information at that time was through direct, personal experiences, these experiences founded the speculations which filled a void for many whom desired existential answers.

Frankfort’s speculations on Man’s speculative development suggest that Man didn’t become holistically smarter over time, rather developed better tools which consequently allowed for a better understanding of the world. Our inherent need to understand fuels our innovation, and our modern-day tools assist in further enhancing our tools and understanding, expediting the rate at which we discover new truths.

The Greeks and the Irrational: E. R. Dodds

Dodds questions the religious beliefs of Greeks specifically, analyzing their ideologies and famous legends to base his reasoning. The Iliad is a tale known by many, and gives a glimpse as to how Greeks viewed the supernatural. Many of the Greek heroes of legend performed acts based on some kind of Divine Intervention, described as either *Ate* (temporary insanity) or *Menos* (consciousness of a mysterious source of power). These two terms suggest a form of unordinary thought, stemming from a supernatural source. Psychologically, Dodds attributes the susceptibility to these states of mind of the Greeks and other religions to the contrast between a “shame-culture” and a “guilt-culture”. Shame culture is derivative of other people’s perceptions of you, and your merits are based upon those perceptions. Guilt culture is the opposite, with a focus on the individual, with a greater sense of one’s own consciousness rather than a community consciousness. Shame culture is linked to the Greeks and many ancient cultures and religions, while Guilt culture is associated with modern schools of thought.

Modern culture is at teetering between the two cultures, both with their merits and flaws. While Guilt culture embodies individuality, reasoning, and rationale, the community is often overlooked. Shame culture has a sense of community and a greater collective purpose, but often abandons rationale. One must not forget the power of what lies just below the consciousness. Man, throughout time, has been influenced by the incomprehensible. “They were deeply and imaginatively aware of the power, the wonder and the peril of the Irrational. But they could describe what went on below the threshold of consciousness only in mythological or symbolic language; they had no instrument for understanding it, still less for controlling it” (Dodds 254).

Physics and Philosophy: Werner Heisenberg

Heisenberg, a theoretical physicist, German philosopher and pioneer in Quantum Mechanics published writings which describe and examine parallels between the forefronts of Physics and the implications on accepted philosophies and beliefs. He describes his pursuit for further understanding of the mathematical principles of subatomic particles, including light waves, the quantization of energy, and the Uncertainty Principle. These concepts had a huge impact on not only within the fields of science,

but also religious institutions as well, rattling their foundations with one specific notion, Uncertainty. “The crucial difference between quantum mechanics and Einstein’s or Newton’s mechanics centers in the definition of a mechanical system at any moment time, and this difference is that quantum mechanics introduces the concept of probability into its definition of state and the mechanics of Newton and Einstein does not” (15). The inability of renowned physicists to predict phenomena without accepting a variable of randomness introduced a much bigger question to the world, and perhaps to Man’s own existence, the question of causality.

There are further complications even, concerning the experimentation and observation of subatomic particles. As scientists developed tools precise-enough to observe these particles, they found that “the very act of observing alters the object being observed when its quantum numbers are small” (29). This discovery begged the question of reality, questioning all things observable. Thankfully, Heisenberg provides solace, stating “There is no meaning in the statement that the things really exist; because if the perception is given it cannot possibly make any difference whether the things exist or do not exist” (77). As mere humans, we can decipher the universe only by what is observable. Our evolving tools help to expand what is observable, these observations shaping future theories. We mustn’t question our perceptions, rather use them effectively. “We are reminded here by modern physics of the old wisdom that the one who insists on never uttering an error must remain silent” (79).

Einstein as Myth and Muse: Alan J. Friedman & Carol C. Donley

The implications of the development of these new aspects of physics had a profound effect upon not only scientific minds, but cultural minds as well. Within this book, science and literature team up to describe the impact of these changes within wide-spread fields of study. The introduction of Time as necessary as an element as space and position had immense effects in the development of Culture and Art, as artists and writers began to think extensively within a four-dimensional perspective, rather than a three-dimensional. This was a pivotal point in standing schools of thought, as human’s minds are naturally bound to the three-dimensional perspective. However, the widespread acceptance and adopting of these principles cannot be primarily attributed to theoretical physicists and the field of science, as a major disconnect lies between scientific minds and the general populace. Thankfully not so between scientific and artistic minds, as both ponder the foundational questions of meaning and existence. The artistic community served as a means of communicating such concepts on an abstract level that is widely relatable, ultimately altering the coming schools of thought.

Intermission

The development of theories considering existence and causality has been an age-old debate amongst all cultures. The only guaranteed fact, is that we cannot guarantee the 100% certainty of proposed ideas. Those who pursue the difficult questions of the universe must not limit themselves to a single school of thought, or fabricate the belief that a particular school of thought has determined the answers. It’s important to keep in mind that even Einstein has been proven wrong. The important notion is not whether one is right or wrong, but that an idea was proposed. As designers, we must acknowledge that ultimately it is the proposing of ideas that impacts and shapes the future.

Poetry, Language, Thought: Martin Heidegger

“When the early morning light quietly grows above the mountains...

The world’s darkening never reaches to the light of Being.

We are too late for the gods and too early for Being. Being’s poem, just begun, is man.

To head towards a star – this only.

To think is to confine yourself to a single thought that one day stands still like a star in the world’s sky.”

Heidegger explores language and thought, beginning with a series of poems. This poem cryptically suggests that Man is within a transition, between the gods and our true Being. Whether he is suggesting that we truly head towards a star, as perhaps an interstellar voyage, or that a single thought can have universal implications, is up for interpretation. His exploration begins with understanding the idea of a Thing, and that scientific definitions

are not enough to wholly define Things, that the linguistic use of Poetry is also just as necessary an ingredient. Where science defines, poetry reflects. It’s this understanding of the nature of Things that allows for the further understanding of the nature of Man and his Being. Language is perhaps the nearest neighbor, serving as the mediator between our thoughts and the exterior world. Heidegger’s renowned statement “Language speaks” (189) holds true because language is expression.

Within the chapter Poetically Man Dwells, Heidegger describes a current dilemma of the poetic men and also men whom dwell upon thought, whose relevance has been seemingly slipping away. Poetry “is either rejected as a frivolous mooning and vaporizing into the unknown, and a flight into dreamland; or is counted as part of literature” (211). He argues that Poetry builds up the very nature of dwelling, that time to dwell is necessary to discover meaning and poetics, and that the spaces we make become our dwelling in which to separate ourselves, providing a brief journey into our thoughts beyond what lies directly near to us. Although poetic thought is generally disdained in the modern world, Man is naturally endowed with the ability to think poetically, this fact apparent within the world we’ve built.

The Visible and Invisible: Maurice Merleau-Ponty

Merleau-Ponty tackles some of the most difficult questions pondered by mankind, one of which being the distinction between the Visible and Invisible, subject and object, perception and reality. These writings were a pivotal point in philosophical thought, unraveling previous thought regarding the concept of Self in relation to the sensible world. An elementary characteristic of humans is the ability to use their senses to decipher and solve the surrounding world. Although senses can deceive perceptions, they are Man’s primary means to discovery of new knowledge. But the interaction between exploration and discovery is not two-dimensional, merely subject and object. These lie within the Visible realm, and it’s the Invisible realm behind the scenes that makes such discovery or thought even possible.

When one touches any sort of object with their own hand, an unseen conversation occurs between the hand as the ‘touching’, the object as the ‘touched’, and the comprehension of the object’s tangible characteristics to the mind. But, one’s perception of the world is still yet to be complete. Mankind’s tendency to view the world as observable objects is only half of the puzzle. We are not merely observing the world, we too, are observable objects. We can touch, but also be touched. This is not only applicable to touch, but any form of perception that lies within the Visible world. But Merleau-Ponty infers that this reversible relationship is necessary for humans to understand; to touch and be

touched, seen and be seen. “We must habituate ourselves to think that every visible is cut out in the tangible... since the same body sees and touches, visible and tangible belong to the same world. It is a marvel too little noticed that every moment of my eyes – even more, every displacement of my body – has its place in the same visible universe that I itemize and explore...” (134).

Such realizations offer an enhanced perspective, one which requires the ability to analyze one’s self from the outside looking in. Although necessary for the complete understanding of the world, this is an extremely dangerous concept if misinterpreted, being the foundations of narcissism in both psychological aspects. On one hand, the ability to view one’s self in relation to the world in such a manner can incite feelings of separation and superiority, instilling an infatuation with one’s Self; on the other hand, this view of the world can blur the lines between self and world, resulting in a self-existential crisis. Merleau-Ponty quotes a painter, whom feels the effects of such a perspective.

“I feel myself looked at by the things, my activity is equally passivity – which is the second and more profound sense of the narcissism; not to see in the outside, as the others see it... but especially to be seen by the outside, to exist within it, to emigrate into it, to be seduced, captivated, alienated by the phantom, so that the seer and the visible reciprocate one another and we no longer know which sees and which is seen” (139).

<Insert> *The Shallows: What the Internet is Doing to our Brains: Nicholas Carr*

For further analysis of the current human condition in relation to digital media, *The Shallows* is a recent published reading which analyzes the effects of current media on our minds. Carr shares his insights on the current metamorphosis of human thought, being drastically altered by the vast amount of information now readily available to us. He specifies that he believes this phenomenon not to be negative, rather speaks of how the understanding of current and future brain processes should be taken into account in further schools of thought.

Intermission

The two previous readings of Heidegger and Merleau-Ponty, and soon from Carr, coalesce nicely towards a couple major points or primary meanings of Horizon, being: the evolution rate of technology, specifically in the fields of virtual reality; and the trends and implications of social media, and all digitized information outlets. I propose that our current culture, dominated by social media and digital creations, is at a tipping point, in danger of losing the act of poetic dwelling and also the fundamental distinction between Self and world. With the current and exponentially improving ability to digitize virtual realities to our own will, or even to access parallel realities in the form of Media, brings forth a unique self-existential problem unseen by most, only just beginning to be surfaced in the 21st century. Time for poetic dwelling has been consumed by busy schedules and the inherent need to fill our free time with some form of digital stimulation. Horizon strives to break or sway the current relationship between Dwelling and the digital realm, creating technological marvels and interactive assemblies to inspire and educate, but also to bridge the gap between the digital and tangible worlds.

The Ends of Man: Jacques Derrida

Jacques Derrida; renowned in the field of Deconstruction, a field which flips many previous philosophies upside down; speaks of the dualities of Things and their necessary dependence on one another, a fundamental Balance in all Things. He refers directly to the duality of Language and Speech, arguing that although Speech preceded Language in the development of human communication, "Language is necessary in order for speech to be intelligible and to produce all of its effects" (*Deconstruction in Context* 405). The Ends of Man is not implied to the physical beings of Man, rather an end of the essence of Man and his true nature of Being. Jacques Derrida analyzes the potential End, pulling philosophies from Hegel, Kant, Husserl and Heidegger in an attempt to examine the unity and history of the concept of Man, something he states is neglected by past philosophies. These thoughts led to the examination of the essence of Being, and ultimately the quest to finding one's true Self. This realization and ability to consciously detect our Selves and our own Being within the world's context is merely a bridge to understanding the true essence of Being, not only for ourselves, but mankind's Being as a whole. In relation to the deconstructive principle of dualities between life and death, "Man is that which is in relation to his end, in the fundamentally equivocal sense of the word. Since always. The transcendental end can appear to itself and be unfolded only on the condition of mortality..." (138). An End of one's concept of Self, deriving from humanity's newfound ability to replicate reality.

It can be concluded that the two major opponents to knowing the essence of Man and Being are the disregard of both language and proximity to our Selves. Derrida states that the restoration of the essence is also the restoration of a dignity and a proximity. Proximity, in other words relating to previous philosophies, can be likened with the concept of nearness, and how discovering our own nature is synonymous with becoming nearest to our true Self. Unfortunately, it is man's instinctual tendencies which ultimately inhibit his own self-discovery. "Being is the nearest... Man at first clings always and only to beings... he at first fails to recognize the nearest and attaches himself to the next nearest. He even thinks that this is the nearest. But nearer than the nearest and at the same time... farther than the farthest is *nearness* itself: the truth of Being".

Final Thoughts

The quest for one's true Self, a defining purpose, is the major element missing in modern-day culture, replaced by endless sources of information and entertainment. If I may open my heart with you, attempting to relate my thoughts and intentions, these schools of thought have helped me come to a realization of Horizon's ultimate purpose, being ambiguous until only recently. A beneficial characteristic of philosophy is applying reasoning previously analyzed to modern-day happenings. I compared my two final contenders for the final typology of my thesis, only to later draw parallels between the two, assisting myself in discovering my own designer's intent, the meaning which lied below my threshold of consciousness. The contender which rivaled Horizon was an Arcade Bar, with the objective of providing a community space which related to a large demographic of people whom primarily rely on the digital realm for every-day life. I discovered that it is this demographic of people I wish to reach, a demographic expanding rapidly, a demographic that lies in the darkness, blurring the distinctions between Self and World with the creation of realities striving to replicate reality. I personally have been susceptible and immersed within the new digital world, and believe that although these alternate realities have capabilities of bringing people together, they also have the power of physically and emotionally

separating them. "If man is to find his way once again into the nearness of Being he must first learn to exist in the nameless. In the same way he must first recognize the seductions of the public realm as well as the impotence of the private..." It is this power that Horizon attempts to combat, providing a space which strives to be more interesting than the Internet itself, at least temporarily, meanwhile inspiring a greater purpose; Man's next frontier. "... Before he speaks man must first let himself be claimed again by Being, taking the risk that under this claim he will seldom have much to say. Only thus will the preciousness of its essence be once more bestowed for dwelling in the truth of Being" (*The Ends of Man* 145).

Aaron Warner
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The Work of Art in the Age of Mechanical Reproduction – Walter Benjamin

&

Intro. of *Illuminations* – Hannah Arendt

Walter Benjamin, a German-Jewish philosopher, essayist and cultural critic, made significant contributions to aesthetic theory, literary criticism, and historical materialism. He was considered an eclectic thinker, drawing from a wide variety of thought for broader analyses, such as German Idealism, Romanticism, Western Marxism, and Jewish Mysticism. Hannah Arendt wrote an introduction Benjamin in her work, *Illuminations*, going into detail on his writings and endeavors, having larger impact than apparent during his time. Arendt begins immediately with an analysis of the notion of fame, with a simultaneous shout-out to Benjamin, his life and work greatly inspiring Hannah and the rest of her book. But the fame of martyrdom in the field of philosophy is referred to as posthumous fame, bestowed only after death, and tragically he chose his own. “Posthumous fame is too odd a thing to be blamed upon the blindness of the world or the corruption of a literary milieu. Nor can it be said that it is the bitter reward of those who were ahead of their time... On the contrary, posthumous fame is usually preceded by the highest recognition among one’s peers.” (Arendt 2)

“Fame is a social phenomenon... ‘for the opinion of one is not enough,’ although it is enough for friendship and love. And no society can properly function without classification, without an arrangement of things and men in classes and prescribed types. This necessary classification is the basis for all social discrimination... in society everybody must answer the question of *what* he is – as distinct from the question of *who* he is – which his role is and his function, and the answer of course can never be: I am unique, not because of the implicit arrogance but because the answer would be meaningless.” (Arendt 3) This necessity to identify a role is precisely the reason Benjamin could not cope with the world, even regarding his fame while still alive, receiving high recognitions at a young age. He labeled himself as a literary critic, although his works varied greatly and he truly had difficulty defining his own label. As Arendt puts it, he was a born writer, but his greatest ambition was to produce a work consisting entirely of quotations; he was attracted to theology and its interpretation but was no theologian and had little interest in the Bible; he was the first German to translate *Proust* and *St.-John Perse*, but was no translator; he reviewed and wrote a number of essays, and wrote a book about the German baroque and left behind a huge unfinished study of the French nineteenth century, but was no historian. Arendt makes it known that “he thought poetically, but he was neither a poet nor a philosopher.” He had brilliant talents, regarded highly by many, yet his inability to affiliate to a single label undermined him, and that “the very notion of thus becoming a useful member of society would have repelled him,” (4) spelling his unfortunate death.

Fitting of his style, Benjamin begins his essay on the analysis of art’s relationship with the mechanical age with a quote from Paul Valery. “The amazing growth of our techniques, the adaptability

and precision they have attained, the ideas and habits they are creating, make it a certainty that profound changes are impending in the ancient craft of the Beautiful... We must expect great innovations to transform the entire technique of the arts, thereby affecting artistic invention itself and perhaps even bringing about an amazing change in our very notion of art.” (1) The rest of his essay evaluates each major innovation and invention within art involving pictorial representation, specifying the effects of the mechanical and technical modes of their reproduction on the field of art and its societal impact.

“In principle, a work of art has always been reproducible. Man-made artifacts could always be imitated by men... Mechanical reproduction of a work of art, however, represents something new. Historically, it advanced intermittently and in leaps at long intervals, but with accelerated intensity.” (2) The Greeks knew two such procedures, founding and stamping, reproducing bronzes, terra cottas and coins. Printing brought about massive changes in literature, allowing for text’s mass distribution. During the Middle Ages, lithography became popular, which involved tracing designs on stones to be sold at the market. Decades later, photography surpassed lithography, innovating and accelerating pictorial reproduction. However, “photography freed the hand of the most important artistic functions which henceforth devolved only upon the eye looking into a lens... Since the eye perceives more swiftly than the hand can draw, the process of pictorial reproduction was accelerated so enormously that it could keep pace with speech.” (4) To keep pace with speech, photography evolved into film, simulating movement and reality through images cycled through a lens and screen faster than the eye can see. Around 1900, technical reproduction of imagery reached such a standard that allowed it to hold a place of its own among the artistic processes, proving to now be essential for the survival and acceptance of art, for each film we view has a plethora of technical instruments cooperating for the desired effect on the screen.

While the reproduction of art allowed for wide distribution, Benjamin points out one missing element, “its presence in time and space, its unique existence at the place where it happens to be... The presence of the original is the prerequisite to the concept of authenticity.” (3) As art has been reproduced, each new copy consequently detracts from the value of the original. While the quality and substance of the art never changes, its presence does. While art was once only able to be visited and experienced at a specific place, its presence was tied to that place. Without its context and uniqueness, art’s individual value depreciated. As Benjamin puts it, mechanical reproduction emancipated the work of art from its dependence on ritual. Once valued for its authenticity, art was then designed for reproducibility, and the “total function of art is reversed... instead of being based on ritual, it begins to be based on another practice – politics.” (6)

Now, works of art are valued by two primary aspects: the cult value and its exhibition value. The first involves the art itself, its individual value and meaning. The latter involves the art’s political and economic characteristics, determined by its popularity and showcase value within exhibition space. “With the different methods of technical reproduction of a work of art, its fitness for exhibition increased to such an extent that the quantitative shift between its two poles turned into a qualitative transformation of its nature... by the absolute emphasis on its exhibition value the work of art becomes a creation with entirely new functions...” (7) This is exemplified particularly well in the artistic practice of film and its contrast with static imagery, such as photography and painting.

The advent of film was revolutionary because of the introduction of concealed mechanical equipment, fragmented together to create an illusion on a screen. The imagery produced is a direct product of its hidden machinery, yet only done powerfully by an artistic eye. This is not unlike previous art, which incorporated many methods to produce a cohesive work. However, it approaches its art fundamentally differently, whereas “the painter maintains in his work a natural distance from reality, the cameraman penetrates deeply into its web.” (13) The painter strives to depict a single image, moment, or experience, while the camera attempts to capture many simultaneously and seamlessly. While the painting allows for interpretation and imagination, film instead focuses on the engagement, appeal, and distraction of the audience. Both are necessary characteristics for the smooth functioning of society, as “distraction and concentration form polar opposites which may be stated as follows: a man who concentrates before a work of art is absorbed by it... in contrast, the distracted mass absorbs the work of art... This is most obvious with regard to buildings. Architecture has always represented the prototype of a work of art the reception of which is consummated by a collectivity in a state of distraction. The laws of its reception are most instructive.” (18) Art has the ability to communicate to and mobilize the masses. Film does so by striking a balance between the excavation of meaning from art and the predetermined state of distraction from architecture, putting the public in the position of the critic and the spectator, both satisfying and pacifying the general population.

Benjamin states there is only one thing that can better perform this dual function, war. “War and war only can set a goal for mass movements on the largest scale while respecting the traditional property system.” (19) It is the political method for combining machinery and art, ultimately a creation of man, pieced together by the variety, innovation and creativity brought about by war. This may be manifested in revolutionary military technologies, but also sparks new works from poets and artists, and inspires new graphic art and literature. While this may be the most efficient and effective method to mobilizing the masses towards a single, collective goal, Benjamin points out its fundamental flaw and lack of wisdom. “The destructiveness of war furnishes proof that society has not been mature enough to incorporate technology as its organ, that technology has not been sufficiently developed to cope with the elemental forces of society.” (20)

Concerning Architecture

It is no wonder Hannah Arendt felt the need to write a substantial writing on Walter Benjamin’s journey, cut short by his absent sense of belonging in the current society of the time. A man with many talents but no place, his posthumous fame represents the fatal flaw of society and its seemingly required labels and roles. His analysis on film and its role provides a link between art and architecture, combining their roles within a framed lens, discerning the importance of hidden machinery to create distracting, engaging and powerful experience. As future architects, we must determine the best methods for quelling the masses, which can be done so successfully only if the crowd’s experience is accounted for. Experience, as demonstrated by film, can be enhanced by evolving technology, the background machinery directly affecting the desired experience. However, as long as war remains the best way to mobilize masses and inspire creations, society maintains an inherent absence, striving to be filled by new technologies. Will society ever fill its absence with new technologies? Most likely not, as it seems there is always an absence, and a desire to fill that absence, within the human soul, as humans

are natural explorers and innovators. If Benjamin’s analysis is correct, it seems the only logical option is to promote our new technologies in an attempt to quell the masses through enhanced experience.

Aaron Warner

Current Architectural Theory

2/13/17

Tradition and the Modern Age – Hannah Arendt

Hannah Arendt's book, *Between Past and Future*, published in 1968, goes over a wide variety of controversial philosophical topics, including writings on freedom, education, authority, tradition, history, and politics. They all share a central idea, that humans are constantly living between the past and an ambiguous, uncertain future. She proposes solutions to help people think about these topics ideally, philosophically and analytically, and begins her essays with a critique on tradition and politics and their role in the ever-changing modern age.

Arendt begins with stating that our tradition of political thought had its definite beginning in the teachings of Plato and Aristotle, specifically in Plato's allegory of the cave in his writing *The Republic*, but also a definite end from the theories of Karl Marx. In his writing, Plato described "the sphere of human affairs – all that belongs to the living together of men in a common world – in terms of darkness, confusion, and deception which those aspiring to true being must turn away from and abandon if they want to discover the clear sky of eternal ideas" (17). This is the beginning, which necessitates the philosopher's "turning away" from politics and then returning with a new set of standards to be translated into human affairs. Marx, on the other hand, believed the philosopher must instead turn away from philosophy in order to "realize" it in politics. He declared that "philosophy and its truth are located not outside the affairs of men and their common world but precisely in them, and can be 'realized' only in the sphere of living together, which he called 'society'" (17). He believed that under an ideal "socialized humanity", the state would wither away, and the productivity of labor would become so great that hard labor would cease to exist, and leisure time would become a standard to each member of society. These ideas and predictions were based from the Athenian city-state which were the model of experience for Plato and Aristotle, which functioned "without a division between rulers and ruled" (19).

Although Marx himself regarded this utopia as just a prediction, these notions can be seen in the modern day, even in the West, whereas it is an accepted fact that industrialization has increased leisure time for the masses. His disposition towards traditional political thought was consciously rebellious, directly confronting both political and philosophical traditional thought. His disdain for both was not unfounded, as he saw philosophy and its contributors as people whom "have interpreted the world long enough; the time has come to change it," and politicians as warmongers, stating "'violence is the midwife of every old society pregnant with a new one', hence: violence is the midwife of history" (21). Arendt states that this means that the hidden forces of development of human productivity come to light only through the violence of wars and revolutions. To Marx, violence or rather the possession of power through the possibility of violence is the primary element to all forms of government, being the instrument of the ruling class to oppress and exploit as well as the primary means of exerting power over other governments. Although Marx's rebuttal of both politics and philosophy have demonstrated validity, Arendt and others have pointed out what has been overlooked. "If violence is the midwife of

history and violent action therefore the most dignified of all forms of human action, what will happen when, after the conclusion of class struggle and the disappearance of the state, no violence will even be possible? How will men be able to act at all in a meaningful, authentic way? Finally, when philosophy has been both realized and abolished in the future of society, what kind of thought will be left?" (24)

Marx's feelings towards violence and its fundamental property within society and its traditions are understandable, as many societies have been drastically transformed through revolution and the overthrowing of governments. However, such a change does not stem from violence, it stems first from those whom perceive a problem with their societal system, and the thinkers whom birthed and perpetuated their ideas. Marx is among these great thinkers, intentionally turning away from tradition to face the problems he saw and foresaw. As Arendt puts it, "their greatness lay in the fact that they perceived their world as one invaded by new problems and perplexities which our tradition of thought was unable to cope with. In this sense their own departure from tradition, no matter how emphatically they proclaimed it (like children whistling louder and louder because they are lost in the dark), was no deliberate act of their own choosing either. What frightened them about the dark was its silence, not the break in tradition" (27). The silence she speaks of is the silence of the masses, whom quietly abide by injustices and inhumanities instead of directly confronting them.

Arendt dives even deeper in her critique of society and its traditions, analyzing the notion of "values". She defines them as "social commodities that have no significance of their own but, like other commodities, exist only in the ever-changing relativity of social linkages and commerce" (32). She states that amounted value is determined by society, not the individual man, and is often related to economic value, a product of society and more specifically its own established traditional values. Hence, it is the great thinkers whom questioned what held value to them, and in doing so questioned the very foundations of their respective societies.

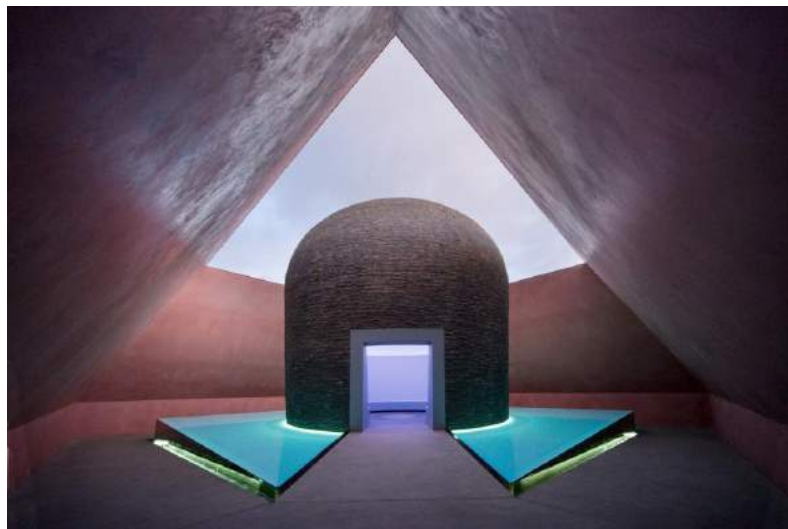
Concerning Architecture

Arendt's analysis of tradition and society in contrast with Marxist ideas seems to strike a chord, as our current political situation is stirring global controversy. Traditional societal standards and values are now being questioned and scrutinized, even the standing political systems losing their sway with the public. It seems humanity is once again in a transitional state, the future of mankind uncertain. It is in times such as these that thinkers such as Marx provide proof that an individual's ideas can, in fact, influence and change society, perhaps not even within their life time. Nevertheless, it is the recognition of what we value and why, the openness to turn away from traditional values, and the proposition and perpetuation of ideas for the sake of humanity that have instigated a shift in past societies, and can do so today. As future architects, with a grasp on the relative human condition, we have the opportunity and means to propose such ideas for change. The deciding factor then boils down to if your values align with those of modern society, and if not, what you're going to do about it.

Relating Architecture



As mentioned in previous writings, James Turrell's work in the medium of light within space has the power to invoke sublime perceptual experience, and is well known in his several types of built Skyspaces, which intentionally disorient yet orient an occupant vertically. While much of his spaces have been influential on my designs, one instance in Australia strikes a chord, named *Within Without*, built in 2010 at the National Gallery of Australia in Canberra, and is now the Gallery's most visited work.

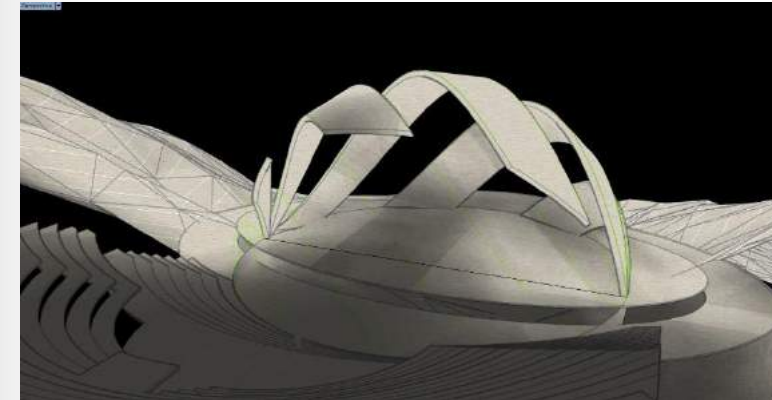


Set within the earth, as well as enclosed by still water, the architectural installation plays on many Turrellian ideas of framing vertical views, solemn geometries, and reflection, and utilizes sloped walkways, an earthen material palette, and specifically-placed minimal lighting strategies to make an occupant keenly aware of their surrounding space. Amidst the seemingly heavy walls and eerily calm water lies a Stupa, which in

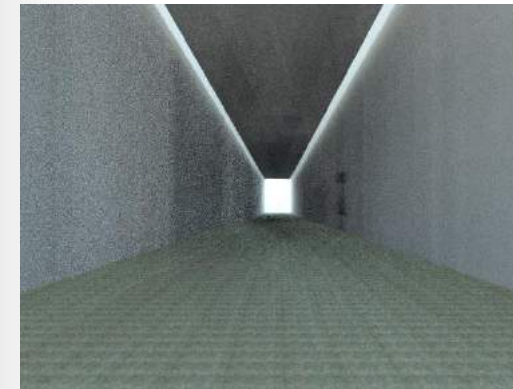


Buddhist culture is a building erected as a shrine and place of meditation. Additionally, the space's design and placement is cosmologically oriented, the "light portal" mirrored by a moonstone placed in the center of the floor, used as a means of relatively tracking the solar light cast from above as it moves throughout the day. The experience is well described by an article written by Rose Niland, stating, "Although a modern structure it appeared ancient and sacred... The solidarity of the dome made it timeless. Indeed I felt in a sense that time stood still, and the precious experience was serenely comforting... *Within Without* is a work of towering strength

and a sense of sacredness and contemplation was woven into the chemistry of the design and the sensitivity of its execution."



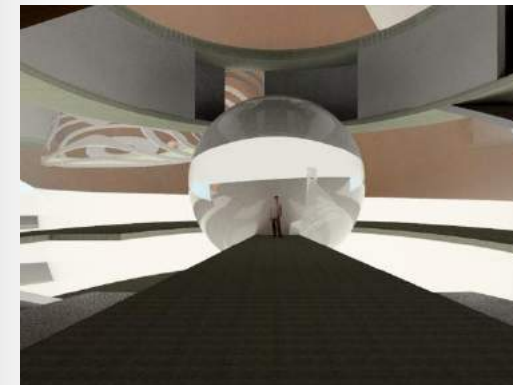
The experience imagined by James Turrell is majorly influential on my designs, using a combination of heavy earthen material and carefully wielded light to craft subliminal experience, simultaneously embodying cosmological phenomena. Three primary architectural features symbolize three primary means of translation between man and cosmos, ranging between built space, artistic



interpretation, and digital representation, each orienting the occupant vertically, with a progressively expanding view as one proceeds up the mountainous site.



The primary features being the Amphitheater, Oculus, and Observatory, each carved out of the mountain at a varying degree, simulate an emergence from the earth as the elements progress vertically. Linked by splits through the mountain, as well as two large community "space elevators" and tunnel systems, the design strives to represent man's chronological development in relation to the cosmos, using the weight of the earth to contrast with the increasing expansion of one's horizons.



Utilizing the natural mineral found within Blanchard Mountain, Stilpnomelane, whose Greek etymology means "shining in the black", as well as symbolic interplay between earth and sky, dark and light, art and science, space and time; my coming thesis, *Horizons*, attempts to link several dualities, all towards a common purpose, the unification and enlightenment of mankind under a singular collective banner: the exploration, discovery, and colonization of the cosmos. In doing so, humanity can perhaps be saved from its own self-destructive tendencies, averting gazes from being spitefully directed across the aisle to being directed upwards and onwards, towards a society propelled by honesty, creativity, and empathy.

The Cosmos have influenced mankind since first gazing wonderingly upon the stars. Craving to reveal the unknown, humanity has consistently developed technological marvels in response to the necessity to acquire knowledge, reaching beyond established societal limits to discover new truths. Each new technology was an expression of human will, fulfilling an absent necessity, and are classified by the aspect of humanity which they enhance. Technologies concerning the view of Earth in relation to the cosmos - specifically Newton's telescope and Copernicus's heliocentric model, removing Earth from the center of the universe - drastically altered mankind's perception of itself, consequently uncovering answers to questions limited by the terrestrial, incorporating new insight obtained from the cosmological. The repercussions of such a reversal of popular perspective have been articulated by Hannah Arendt, renowned in several fields of study, stating in her book *The Human Condition*, "what ushered in the modern age was not the age-old desire of astronomers for simplicity, harmony, and beauty nor the Renaissance's new-awakened love for the earth and the world, with its rebellion against the rationalism of medieval scholasticism; this love of the world, on the contrary, was the first to fall victim to the modern age's triumphal world alienation. It was rather the discovery, due to the new instrument, that Copernicus' image of 'the virile man standing in the sun . . . overlooking the planets' was much more than an image or a gesture, was in fact an indication of the astounding human capacity to think in terms of the universe while remaining on the earth, and the perhaps even more astounding human ability to use cosmic laws as guiding principles for terrestrial action." (264)

Such a perspective revolutionized both disciplines of science and art, supplying ample food for thought and speculation regarding all else that remained unknown. To unravel the newfound mysteries humanity now faced, countless technologies were birthed, several of which sought to further expand mankind's perception. Intellectual technologies, defined by Nicholas Carr in his book *The Shallows*, are "all the tools we use to extend or support our mental powers - to find and classify information, to formulate and articulate ideas, to share know-how and knowledge, to take measurements and perform calculations, to expand the capacity of our memory." This includes, "the typewriter, the abacus and the slide rule, the sextant and the globe, the book and the newspaper, the school and the library, the computer and the Internet." (44) Such tools enhanced mankind with the ability to fabricate with increasing accuracy the processes unraveling the mysterious universe, as well as share and collaborate those ideas consistently through an established, consistent system for revolutionary thought.

Since the Industrial Revolution, civilization has held a paramount importance on the Sciences; objective and quantifiable knowledge propelling forward the systematic progression into modern society. Prior to such a shift in humanity's primary way of thinking, subjective knowledge held great value to the general population, the means to acquire verifiable truths limited by the technologies at that time. The current exponential trend of technological achievement suggests no indication of slowing, the age of information proving only to be increasing its speed and number of possibilities as each day passes. The trajectory of human civilization is now more pertinent and relevant than any previous era, made urgent by the sheer rate of new discoveries and innovations, complemented by global connectivity introduced by the Internet and the ingenuity of modern science. This compounding rate of discovery can be attributed to mankind's newfound ability to digitally connect with anybody or anything almost seamlessly and instantaneously, allowing collaboration between peers to fuel the fires of innovation, as well as introduce and compile all aspects of culture into a single medium.

Additionally, the increasing power of computers and the ambiguous digital realm has consistently augmented Man's ability to perform systematic tasks, consequently replacing the human element in a wide variety of fields and professions. While many may view this as a fundamental problem with society, I instead propose that human civilization is in a crucial transition, the journey to discovering its own potential enhanced by the technological and explained by both the empirical and phenomenological. This is demonstrated by

recent findings in neuroscience, specifically neuroplasticity and neurophenomenology, the adaptability and interrelated characteristics of the human brain thwarting many traditional preconceptions. What has been revealed by neuroscience and humanity's technological history is the fundamental necessity of both sides of the spectrum, which in of itself is proving to be the primary issue with today's post-modern society. The crucial choice between two options of a binary system has been a notion instilled since the dawn of humanity, and is proving to be detrimental to the condition of current culture. This not only relates to many modes of thought but nearly all aspects of modern society, the friction between opposing views causing an inherent blindness and absence of empathy in not only rivaling organizations and causes, but also within the human soul, even influencing the essential act of social interaction.

Early man's value of subjective knowledge consisted of the combination of multiple environmental elements for a broader, holistic depiction of the universe's happenings. Modern man favors the sciences, explaining with great detail observed phenomena utilizing a rational or empirical approach. Whereas the early approach attempted to understand the known world using the combination of lived experience and observation, the modern objective approach emphasizes specificity and detail, resulting in a narrowing of the extents of human creativity, limited by bounds established by the tested and verifiable. Empirical knowledge and methods are undoubtedly essential to human civilization's technological progress. However, in its wake, knowledge obtained by direct experience and inference has been classified as irrelevant. Creative professions have suffered, and the active imagination has been suppressed by rationale. Perhaps post-modern man can reconcile the two.

Birthered by the quantization of information into the digital realm and fueled by the human desire to connect, the advent of the Internet marks a point in mankind's technological history which differs from previous technologies in this primary aspect: it's ultimate extents are unknown. Such ambiguity of humanity's future can incite fear from uncertainty. Historically, connectivity has been a staple of human existence since the earliest civilization was formed, the first party was hosted, and the first shelter built around fire. Being an extension of man's yearning to connect, the Net's recent traction with the public comes as no surprise, providing innovative solutions to scientist and artist alike. The surprising factors, however, are the velocity at which this digital sensation has struck humanity, and the technology's exponential evolution, dictated seemingly on its own. If one is to understand the Net, they must also understand why humanity would invent such a tool, and in doing so gain a glimpse inside the workings of the human mind, and perhaps even the soul.

But first, architecture can promote such a cause through the embodiment of the cosmos through buildings enhanced by the digital, allowing man to metaphorically, but also quite literally, touch a star, consequently igniting a passion and compulsion for interstellar exploration, while providing wide varieties of meaningful social interaction. Such an experience requires analysis of both of man's internal and external limits, pushing man's physical and figurative boundaries. This can be achieved by maximizing intended experience through the integration of successful historical precedents within the cosmological typology, complemented by the analysis of human experience within built space using recent findings in neuroscience and neurophenomenology, as well as studying the emerging popularity, realism, and level of immersion virtual reality and all digitally created environments bring.

Human creativity is as essential as objectivity for the holistic cognitive function of the human mind, satisfying man's need to express and understand, create and explain. A degree of emotional engagement and interpretation is required for effective retention and application of information and knowledge, placing an importance on the study of the cognitive effects our buildings truly have, and the messages they embody. Only then will the tested and the experienced be in a harmonious relationship, justified and quantified by observed neural reactions to our created environments.

The missing element between the subjective and objective, art and science, creation and systemization; is empathy. In *Architecture and Neuroscience: A Double Helix*, John Paul Eberhard sheds light on the source of empathy within the human cognition, specifying that "our ability to understand others - empathy - is the foundation of human relationship, social intelligence, and cohesion. We do not understand

empathy - is the foundation of human relationship, social intelligence, and cohesion. We do not understand others analogically through sight and inference. Rather, vision, touch, and action are inextricably linked, so that when we perceive the tactile experience of others, our own motor and somatosensory systems are systematically activated. We do not understand others by merely seeing them and inferring their mental state, but through feeling what the other person is experiencing in our own bodies. In this transaction we are literally 'touched' by the other person" (147) Such transactions are compounded by the connectivity brought about by the Internet, providing the possibility for mankind's desire for an ideal connection with the rest of the world. Instead, the Net's connectivity has produced, what Nicholas Carr defines as, a population of "shallow thinkers," (194) uninterested in discovering meaning, attention focused instead on the unlimited source of sporadic information shining through the screens in our pocket.

The convenient access to vast amounts of knowledge in the age of information has detracted from the importance of established knowledge, and the relentless stream of popular digital media dominates humanity's immediate attention, further detracting from the depth of its users as wide varieties of unrelated messages litter our screens. However, this ominous cloud, once on the horizon but now directly above, has a silver lining. The shallow thinking attributed by Carr refers to not just the absence of depth, but also where that cognitive function is instead being utilized. Research has shown that certain cognitive skills are strengthened, sometimes substantially, by our use of computers and the Net, tending towards primitive mental functions such as hand-eye coordination, reflex response, and the processing of visual cues. A study on video gaming, "published in *Nature* in 2003, revealed that after just ten days of playing action games on computers, a group of young people had significantly increased the speed with which they could shift their visual focus among different images and tasks. Veteran game players were also found to be able to identify more items in their visual field than novices could. The authors of the study concluded that 'although video-game playing may seem to be rather mindless, it is capable of radically altering visual attentional processing.'" (139) Consequently, the "growing use of the Net and other screen-based technologies has led to the 'widespread and sophisticated development of visual-spatial skills,'" and has demonstrated new strengths in visual-spatial intelligence*. While one could make the conclusion that a general lack of depth constitutes a generally lower intelligence, the contrary is demonstrated by the Flynn effect, which has recorded a steady increase in average IQ about three points a decade in the US. since roughly 1930, long before the digital age. It implies that general human intelligence has not decayed, rather shifted from deep processing activities including attentive knowledge acquisition, inductive analysis, critical thinking, and reflection* (141) to an enhanced visual-spatial intelligence, utilized effectively only when brought about by a keen awareness.

While there are undoubted benefits to such a newfound sort of intelligence, what was lost in the transition can be regained and reestablished through the conscious awareness of the changing human mind, which is undergoing a significant rewiring as mankind launches into the 21st century. What can be potentially gained is an adeptness in both types of intelligence, incorporating both visual-spatial skills and the ability to attentively gather and retain meaningful knowledge; resulting in a holistic, interrelated, and connected intelligence, able to swiftly skim and comprehend vast amounts of information, then applied to actual scenarios using simultaneous personal reflection and critical thinking. Minds such as these seem to be exactly what the architecture profession needs, excelling in both visualization and comprehension, and wielding an intrinsic affinity for navigating and utilizing the digital realm, as well as viewing our created environments as an interconnected array of detailed parts shaping the overall human experience. Designers of all professions are expected to understand their creations beyond their immediate given appearance, requiring a level of imagination and visualization for an accurate mental simulation of the cohesive whole. The many headed beast of the architecture profession requires the integration of many skills, placing value in both science and art. If any field can publicly demonstrate their successful integration, architecture can perhaps do so by utilizing the connectivity now established by the Internet, and in turn be justified with empirical neurophenomenological studies on human experience.

The journey into the depths of the cosmos is inevitable, planet Earth rapidly reaching dangerous atmospheric levels and maximum population capacity. Progress to a successful colonization or migration is being inhibited by the trivial conflicts between rivaling factions, neither successfully reaching across the aisle to strike meaningful compromise for the greater good. As the pace of technology quickens, so too must the adaptability of mankind, or risk its own destruction with the power it now wields; militarily, scientifically, creatively, collectively and individually. Free from humanity's self-destructive tendencies, the cosmos signifies man's ascension beyond primitive conflicts, depicting the relative insignificance of humanity in comparison with the rest of existence, but also proposing a challenge to refute that fact and expand mankind's significance among the stars. For if both extremes of the human spectrum cannot be urgently integrated harmoniously under the banner of a singular, holistic cause - founded by creativity, governed by empathy and justified by objectivity - then we are destined as a species to be consumed by our own conflict and greed, enabled by ultimate connectivity and intensified by technological progress. It seems mankind faces two daunting tasks to ensure its survival, each carrying considerable weight: first, reconcile opposing schools of thought, with the intent of effective further collaboration and achievement with minimal detrimental conflict; and second, begin the documentation and preparation for Plan B - the colonization of the cosmos. Accomplishing these will bring into harmony humanity as a singular species, igniting the fires of progress and the spark of creativity to begin a new era focused on the collective success of mankind.

Harrell, D. M. (2008). *Nature's Witness: How Evolution can inspire faith*. Nashville: Abingdon Press.

Harrell's book is a dialogue between himself and 'Aunt Bernice', whom is a figure used for the sake of a devil's advocate and a counterargument. It starts with the theory of evolution and how that shaped the faith of various religions, but progresses into how the current findings in the Universe and Quantum Theory have caused doubts within the scientific community, creating more questions on the origins of existence.

Why Stephen Hawking believes the next 100 years may be humanity's toughest test. (n.d.). Retrieved October 10, 2016, from <https://www.washingtonpost.com/news/speaking-of-science/wp/2016/01/20/why-stephen-hawking-believes-the-next-100-years-may-be-humanitys-toughest-test-yet/>

Hawking, one of the world's most respected physicist and theorists, speaks on what the future holds for mankind, based on patterns and trends, as well as probability. He states specifically that as time goes on, the potential for disaster increases, and ultimately mankind must look to the stars to escape the death of our species. This specifically refers to an interview from BBC, where he was asked what the next 100 years may hold, and beyond.

Scarr, S., & Wilfrid, V. Z. (1987). *Understanding psychology*. New York: Random House.

Sandra Scarr and V.Z. Wilfred provide an in-depth and extensive look at the human psyche. This book is often referred to by other scholars to explain humans' psychological tendencies. The specific portion I looked into and incorporated is what causes humans to change on a psychological level.

Mahoney, M. J. (1991). *Human change processes: The scientific foundations of psychotherapy*. New York: Basic-Books.

This book also tackles the ability of humans to change, but on a conceptual level using psychology as a foundation. It also uses popular philosophical theories that complement the foundations of psychology and human nature. Mahoney was widely recognized, and honored by the American Association for the Advancement of Science, as well as other psychological and science-based associations. This book incorporates forward thinking in the field of psychology, and the future of man.

Heisenberg, W. (1959). *Physics and philosophy: The revolution in modern science*. New York: Harper.

Heisenberg relates how philosophies are influenced by the continuous discovery of physics in the universe, and directly depicts how the scientific community's beliefs are questioned by the very topics they discover. Not only is this book revolutionary in scientific schools of thought, but religious and intellectual as well.

Friedman, A. J., & Donley, C. C. (1985). *Einstein as myth and muse*. Cambridge: Cambridge University Press.

Friedman and Donley target the effects of Einsteinian physical theory on the world of literature and culture, and the implications on general schools of thought. This describes an integral stage in mankind's intellectual thought, and how that affects popular belief. The central concept is that science has a deep influence on many aspects of culture, including religion.

Neil deGrasse Tyson Talks About The Future Of Humanity With Elon Musk And Bill Nye. (n.d.). Retrieved October 10, 2016, from <http://digg.com/2015/neil-degrasse-tyson-interview-elon-musk-bill-nye>

Respected figures of the modern scientific world, these three men discuss just what lies ahead in the future. The interview consists of analyzing the folly of not accepting global climate change, as well as the steps Elon Musk is taking to potentially colonize Mars. It also elaborates on sustainability, and analyzes just

Heidegger, M. (1977). *The question concerning technology, and other essays*. New York: Harper & Row.

Heidegger tackles humanity's relationship with technology, and the implications that could have in the future. His book relates technology to mankind's primitive tools, and the possibilities our intellectual evolution can have upon our modern day technological tools.

Frankfort, H. (1946). *The intellectual adventures of ancient man: An essay on speculative thought in the ancient Near East*. Chicago.

Frankfort analyzes the differences in speculation between modern day schools of thought and primitive man. He specifically speaks on the different perspectives on the world between the two eras, highlighting how man would view the world without an empty bank of knowledge. This directly transfers to the development of Gods and deities, as well as the need for the curiosity of humans to decipher the known world.

Carr, Nicholas G. *The Shallows: What the Internet Is Doing to Our Brains*. New York: W.W. Norton, 2011. Print.

Carr dives into the psychological impacts of the Internet, analyzing the changing minds of modern society through the perspective of a traditional perspective. This book provides much insight and research into the causes and trends of current happenings relating to digital media.

Robinson, Sarah. *Mind in Architecture*. Place of publication not identified: MIT Press, 2012. Print.

Robinson has written about and compiled many writings regarding the human mind in relation to architecture, and gets into the effects of neuroscience and neurophenomenology, and what that means for the future of the architecture profession.

Arendt, Hannah, and Margaret Canovan. *The Human Condition*. Chicago: U of Chicago Press, 2012. Print.

Arendt analyzes the human condition on several levels, and analyzes the changing conditions of humanity throughout history, and makes speculations on the future of man.



PRECEDENTS

NARRATIVE Horizons draws inspiration from both forward-thinking and historical typologies, selecting the best qualities from each to create a unique, contextualized symbol for the people of Washington. The traits the project wishes to embody from analyzed precedents are not only physical, but also each building's cultural impact.

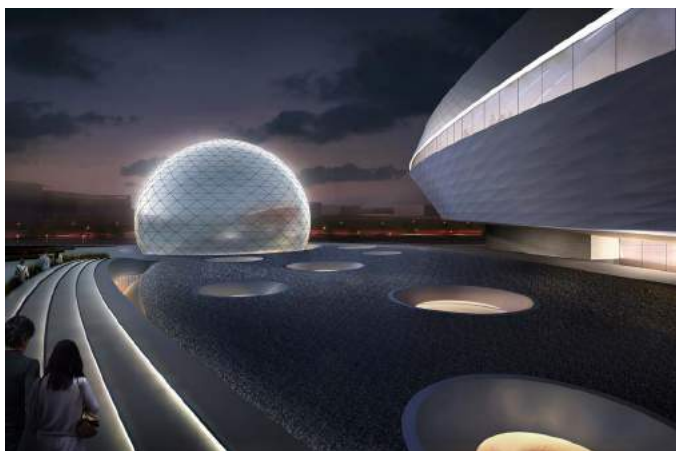
Horizon draws from the Winchester Cathedral in Hampshire, England, due to its iconic Gothic architecture. This style of architecture was key in lifting the spirits of surrounding people, providing solace in a time of doubt and directing gazes upwards towards the heavens and cosmos. Next, the Sphinx Observatory in Switzerland served as a sort of pilgrimage for pursuers of science, embodying the quest for knowledge to the ends of the Earth, and the ends of the Cosmos. It also serves as a case study for successful isolated mountain structures, relying primarily on itself for sustenance, implementing a tunnel system within the mountain. The Red Rocks Amphitheater, near Denver, Colorado, also demonstrates such survivability, with a similar distance from the heart of Denver as Horizons from the heart of Seattle. Red Rocks also provides a consistent source of revenue offering a venue for wide varieties of assembly, making its mountainous location ideal economically and aesthetically. Finally, Ennead Architects' design of the coming Shanghai Planetarium is majorly influential of Horizons, communicating meaningful and intentional thought of the elements and spaces throughout within a cosmological scale.

Combining these traits results in a truly unique typology, one which blurs the distinction between contrasting disciplines, transcending primitive conflict and difference between humans to promote a greater purpose. Lessons and strategies can be gleaned from the histories of all cultures and beliefs. Future development must incorporate past strengths of a wide variety of typologies, optimizing for ultimate technical and cultural effectiveness.

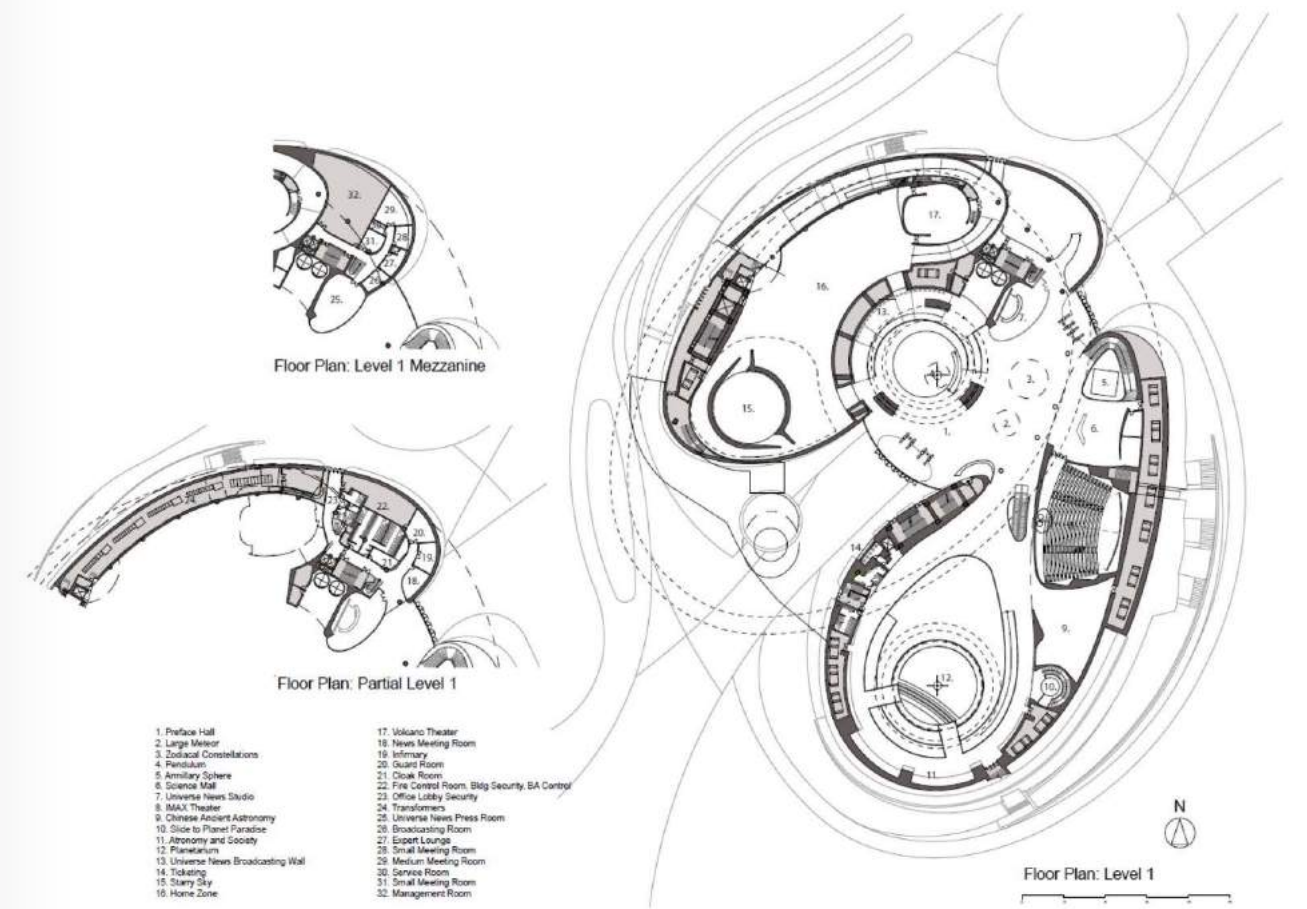
SHANGHAI PLANETARIUM



"Drawing inspiration from astronomical principles, our design strategy provides a platform for the experience of orbital motion, and utilizes that as a metaphorical reference and generator of form"



The Shanghai Planetarium is comprised of three major components: The Oculus, the Inverted Dome, and the Sphere. The Oculus serves as a representation of the sun's movement, casting a mobile shadow across the main plaza. The inverted Dome serves as a focal point above the central atrium, providing unique vertical views at all times of the day. The Sphere contains the planetarium, and symbolizes the passage of time within the space.



- | | |
|-------------------------------------|-------------------------------------------------|
| 1. Preface Hall | 17. Volcano Theater |
| 2. Large Meteor | 18. News Meeting Room |
| 3. Zodiacal Constellations | 19. Infirmary |
| 4. Pavilion | 20. Super Room |
| 5. Annular Sphere | 21. Cloak Room |
| 6. Science Mall | 22. Fire Control Room, Big Security, BA Control |
| 7. Universe News Studio | 23. Office Lobby Security |
| 8. IMAX Theater | 24. Transformers |
| 9. Chinese Ancient Astronomy | 25. Universe News Press Room |
| 10. Slide to Planet Paradise | 26. Broadcasting Room |
| 11. Astronomy and Society | 27. Expert Lounge |
| 12. Planetarium | 28. Small Meeting Room |
| 13. Universe News Broadcasting Wall | 29. Medium Meeting Room |
| 14. Ticketing | 30. Service Room |
| 15. Starry Sky | 31. Small Meeting Room |
| 16. Home Zone | 32. Management Room |

This project correlates well with my thesis, achieving Ennead Architects' goal of embodying the elements of the Cosmos, replicating the elliptical motion with mathematically placed spaces and the passage of time. The circulation space given is proportional to the size of the major element, seemingly attempting to replicate the effects of

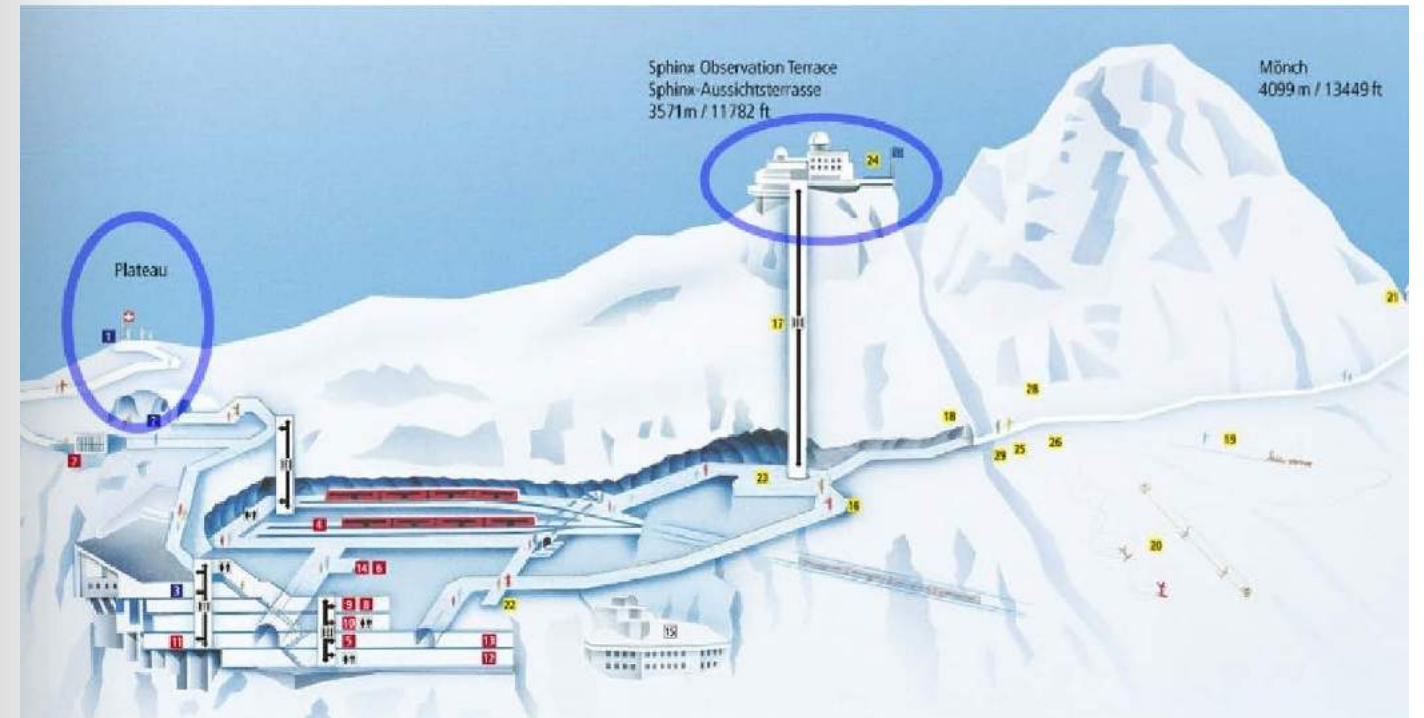


SPHINX OBSERVATORY



"With multiple laboratories, a weather observation station, astronomical and meteorological domes, and a 76-cm telescope, the Sphinx has served as a headquarters for researchers in fields such as glaciology, medicine, cosmic ray physics, and astronomy. And over the years, the building has adapted to meet scientists' needs. Today, the observatory is fully outfitted with electricity, water, telephone, internet, and even a machine to produce liquid air" - Atlas Obscura

The Sphinx Observatory served as a place where scientists journeyed to conduct their research with minimal interference from human civilization. Located in Jungfraujoch, Switzerland, this observatory is by no means easy to travel to, the nearest trace of civilization lying a few kilometers away. After walking within a half-mile long tunnel, an elevator tunneled into the mountain would traverse to and from the observation deck, offering a panoramic view of the Swiss mountainside.

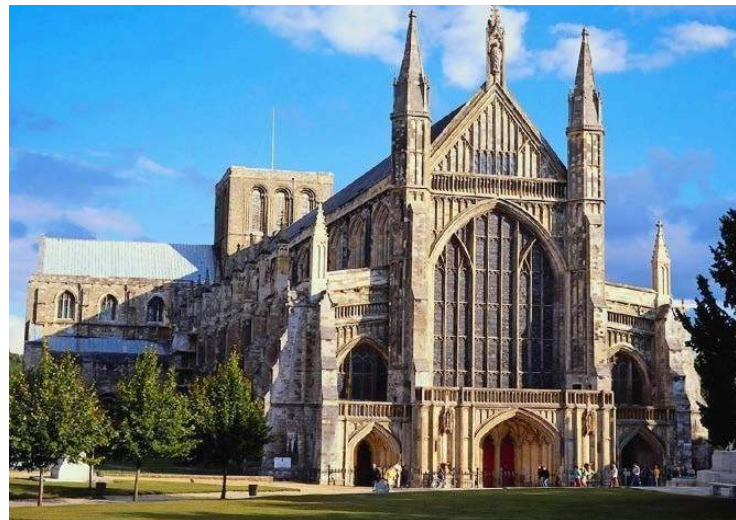
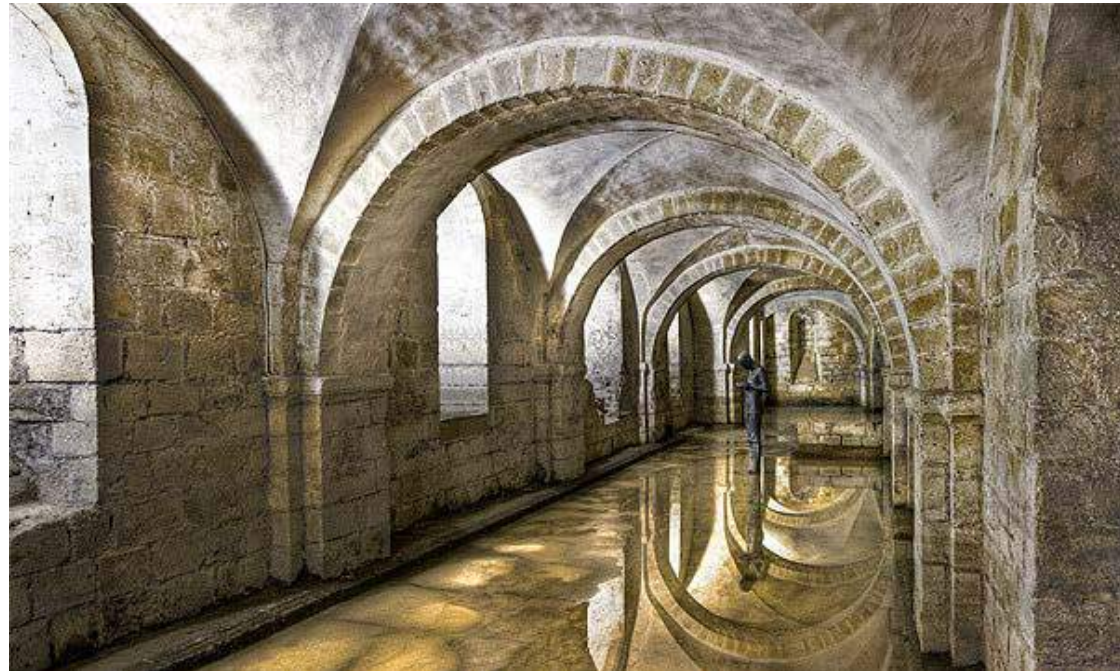


"Scientists have long traveled to Earth's ends to conduct their studies. Mountaintops are a classic example of a harsh environment that serves as an ideal setting for experiments ranging from the physiological to the astronomical" - Atlas Obscura

The Sphinx Observatory relates well to Horizons for a few reasons. Firstly, it is a great example of the elevator-tunnel system I plan to implement. Second, it's a great example of how such an isolated building on a mountaintop can be sustained and maintained. Finally, it embodies a critical aspect I am striving for, the quest for knowledge far from the heart of civilization. Being an extremely difficult vacation destination, the Sphinx Observatory became a sort of pilgrimage for many physicists and astronomers.



WINCHESTER CATHEDRAL



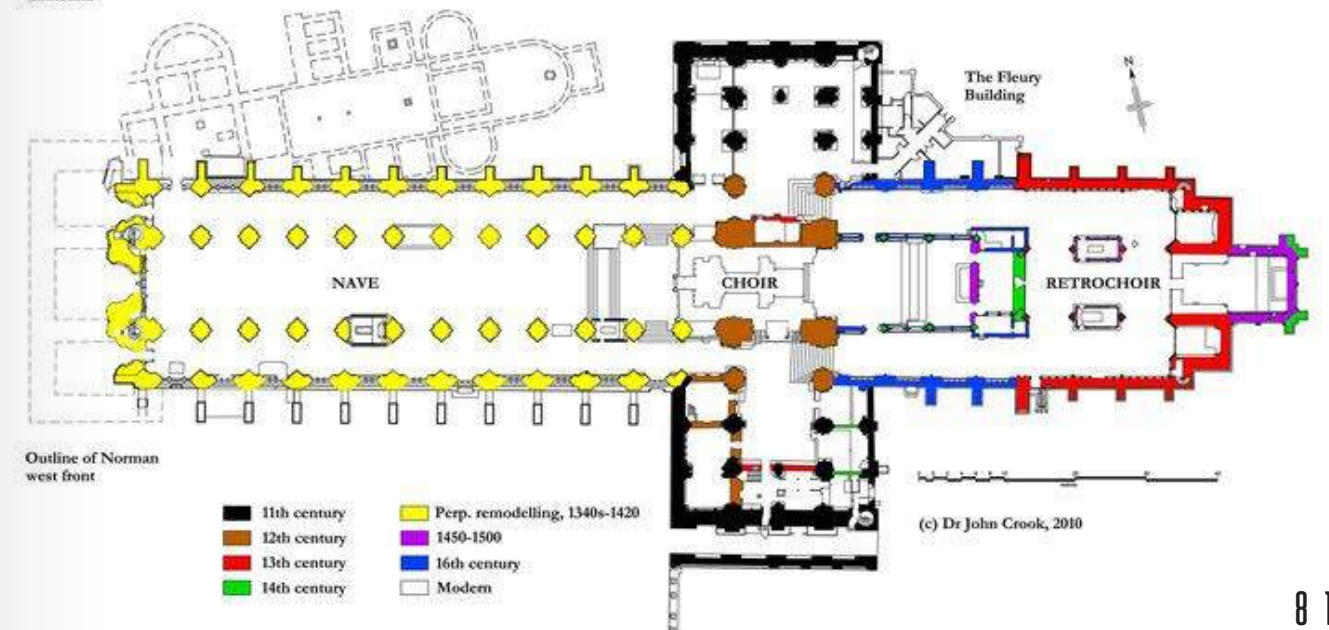
The Winchester Cathedral, located in Hampshire, England, stands as one of the largest Gothic Cathedrals in Europe. It embodies the Gothic architectural era, with large spires, pointed arches, and beautifully crafted vaulted ceilings. The Gothic era demonstrates how architecture can influence people's general outlook, the dramatization of vertical elements inspiring many.



The aspects of the Winchester Cathedral that pertain to my project are the physical and spiritual characteristics. I wish to adapt the elements used in the Gothic era of architecture to my project, with the intent of lifting the spirits of the occupants, invoking awe and inspiration. The spiritual aspects correlate with the physical, using a sense of scale within an environment to provide a different context.

"The principle of Gothic architecture is infinity made imaginable". - Samuel Taylor Colidge

Outline of Old Minster, the Anglo-Saxon Cathedral

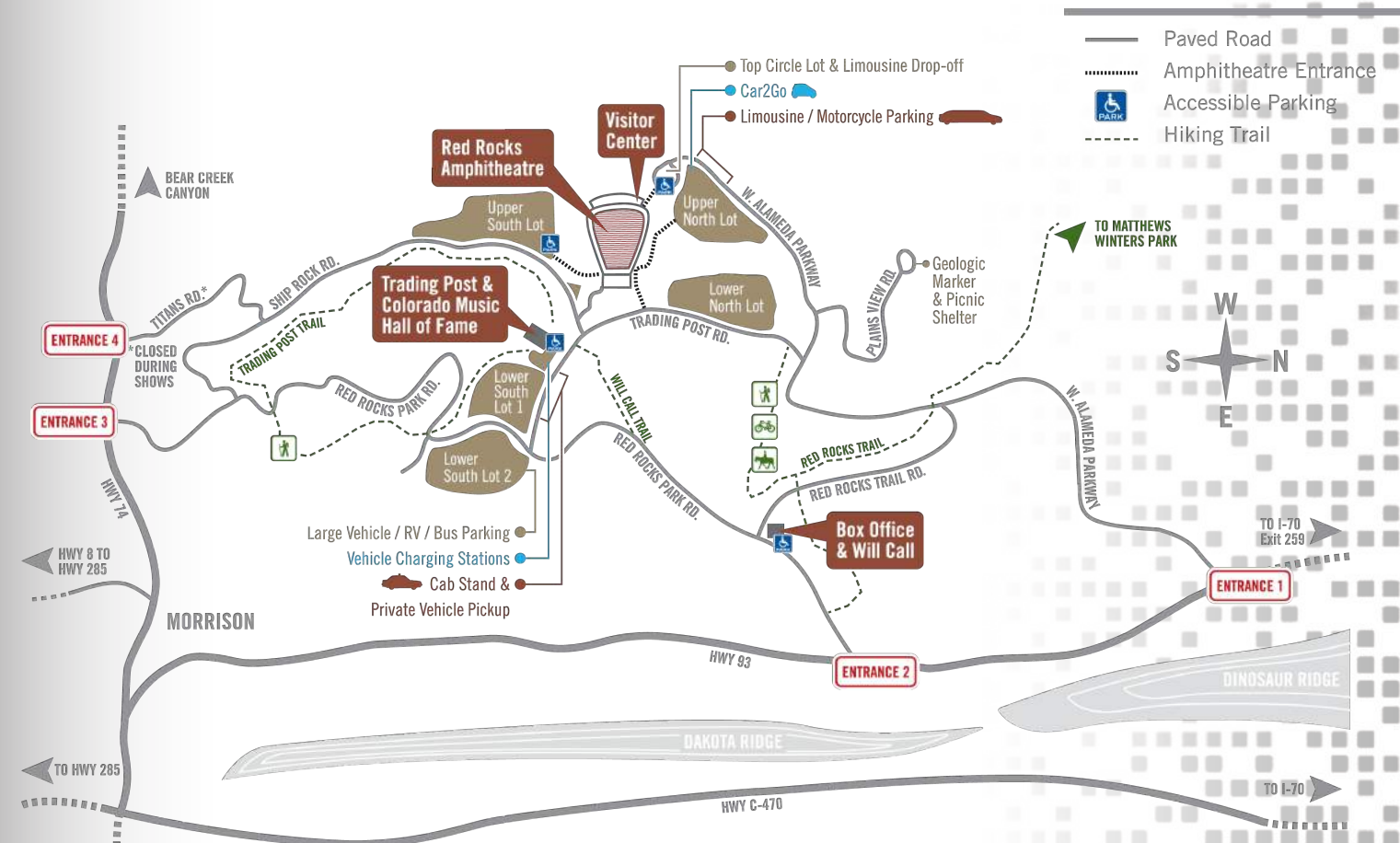


RED ROCKS AMPITHEATER



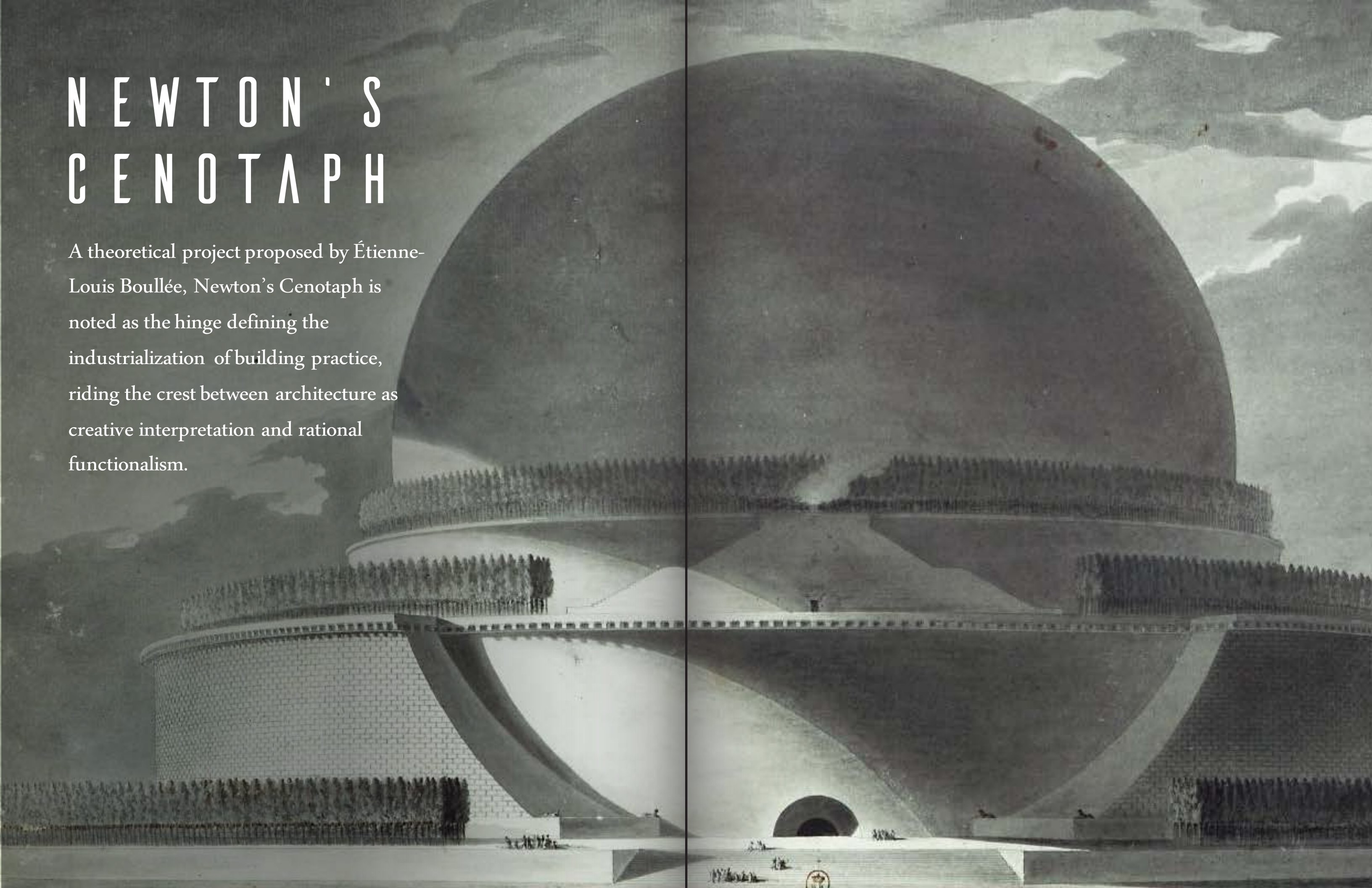
Red Rocks boasts a location nearby Denver, attracting a wide variety of performances and lectures as well as many demographics of people. The bleachers carved directly out of the mountain compliment the bare rock jutting into the sky, all the while overlooking Denver from the mountain perspective.

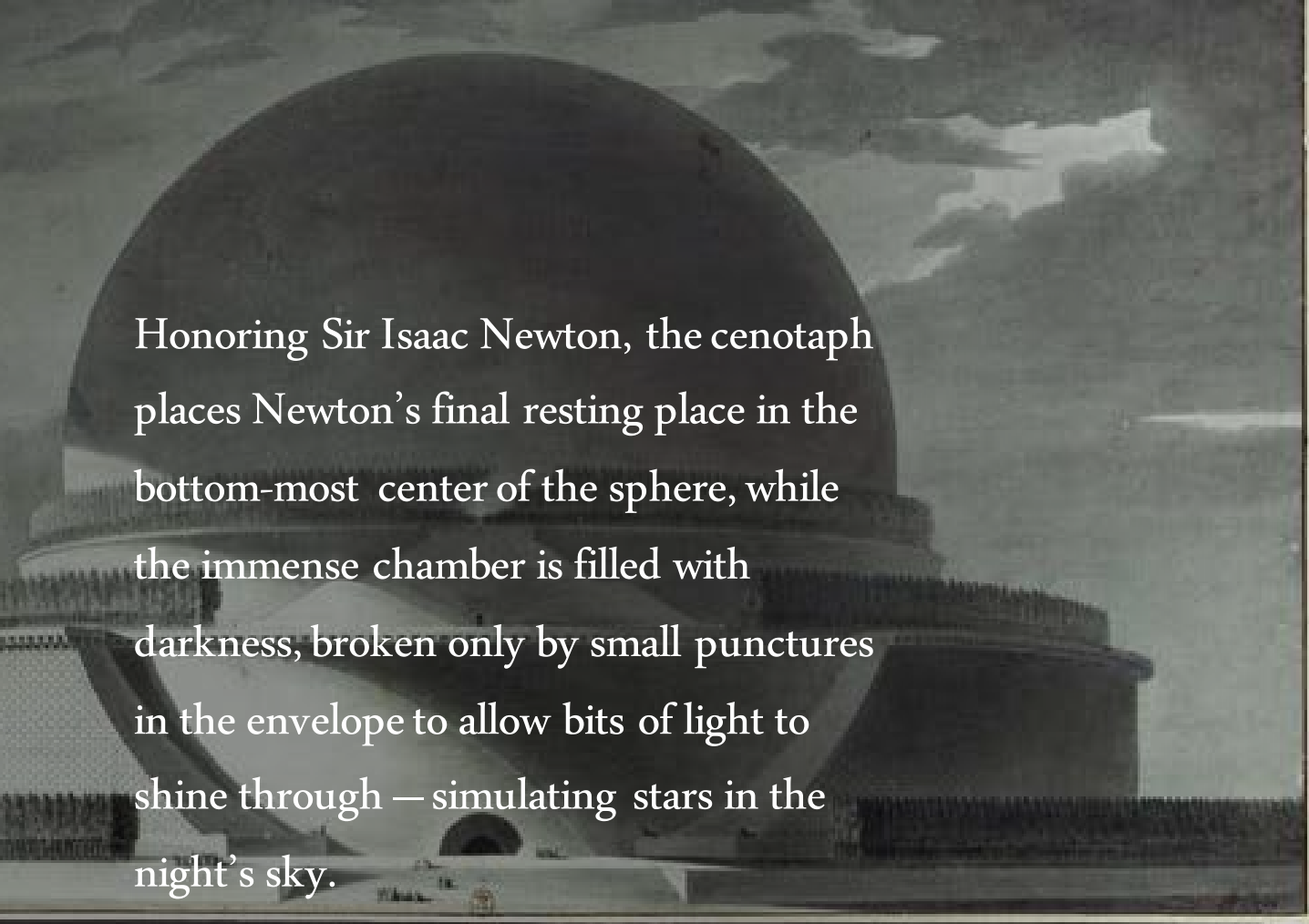
Its visitors center contains a few exterior balconies viewing the natural Colorado landscape, but also contains a rather large series of public spaces, each commemorating the rich history of past performances. These halls create a memorial which enables music to live on in history.



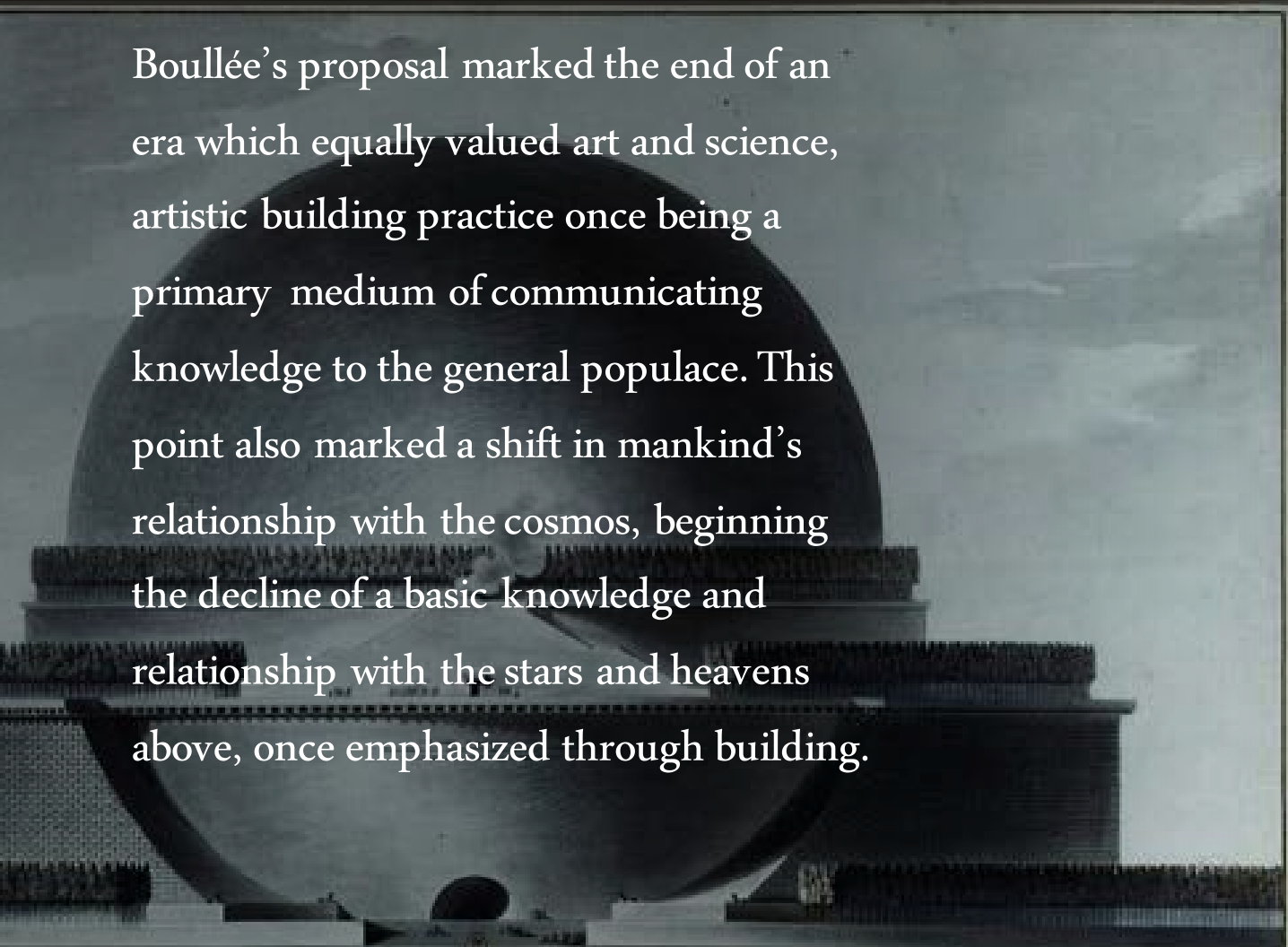
NEWTON'S CENOTAPH

A theoretical project proposed by Étienne-Louis Boullée, Newton's Cenotaph is noted as the hinge defining the industrialization of building practice, riding the crest between architecture as creative interpretation and rational functionalism.

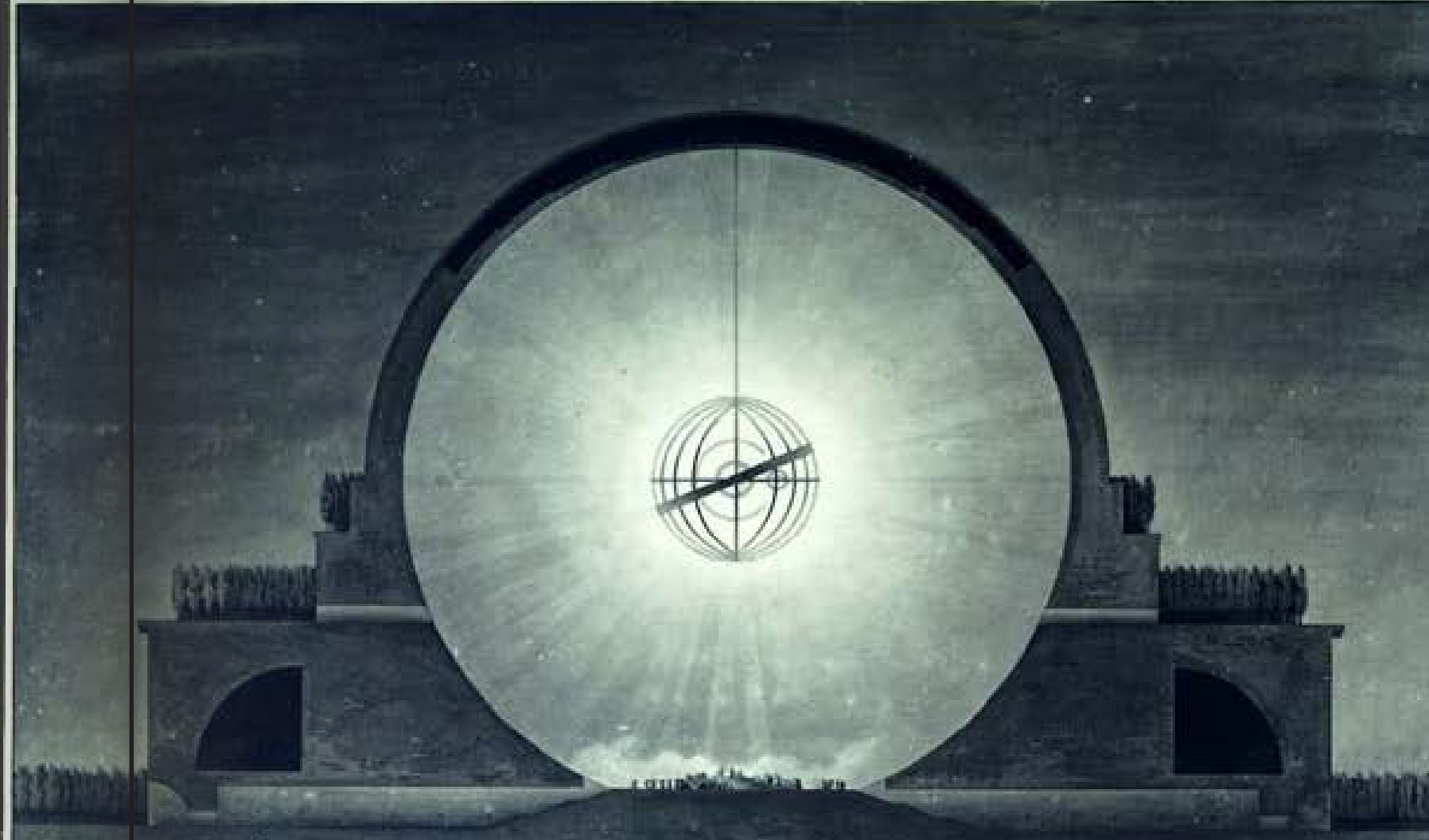
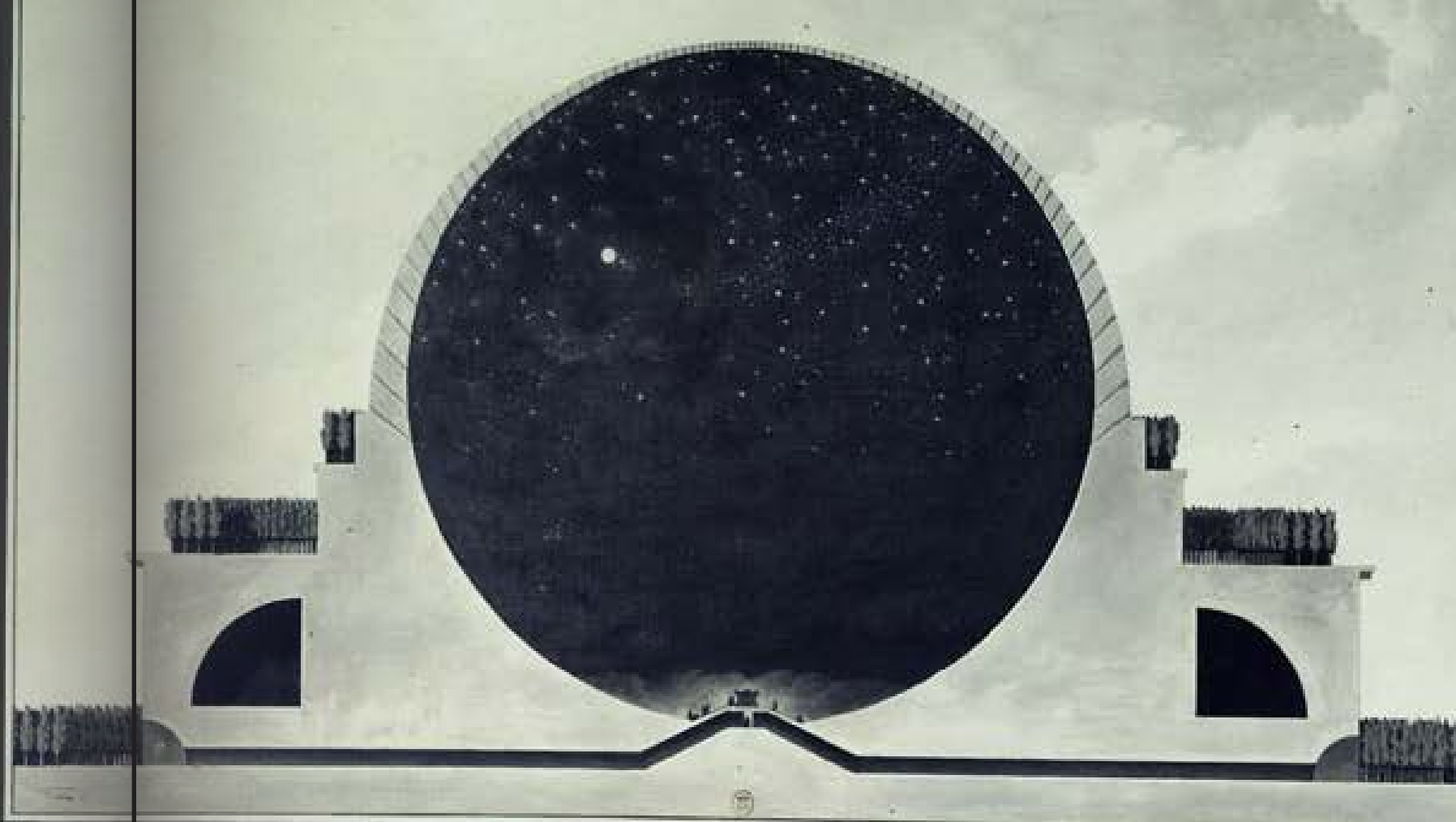




Honoring Sir Isaac Newton, the cenotaph places Newton's final resting place in the bottom-most center of the sphere, while the immense chamber is filled with darkness, broken only by small punctures in the envelope to allow bits of light to shine through — simulating stars in the night's sky.

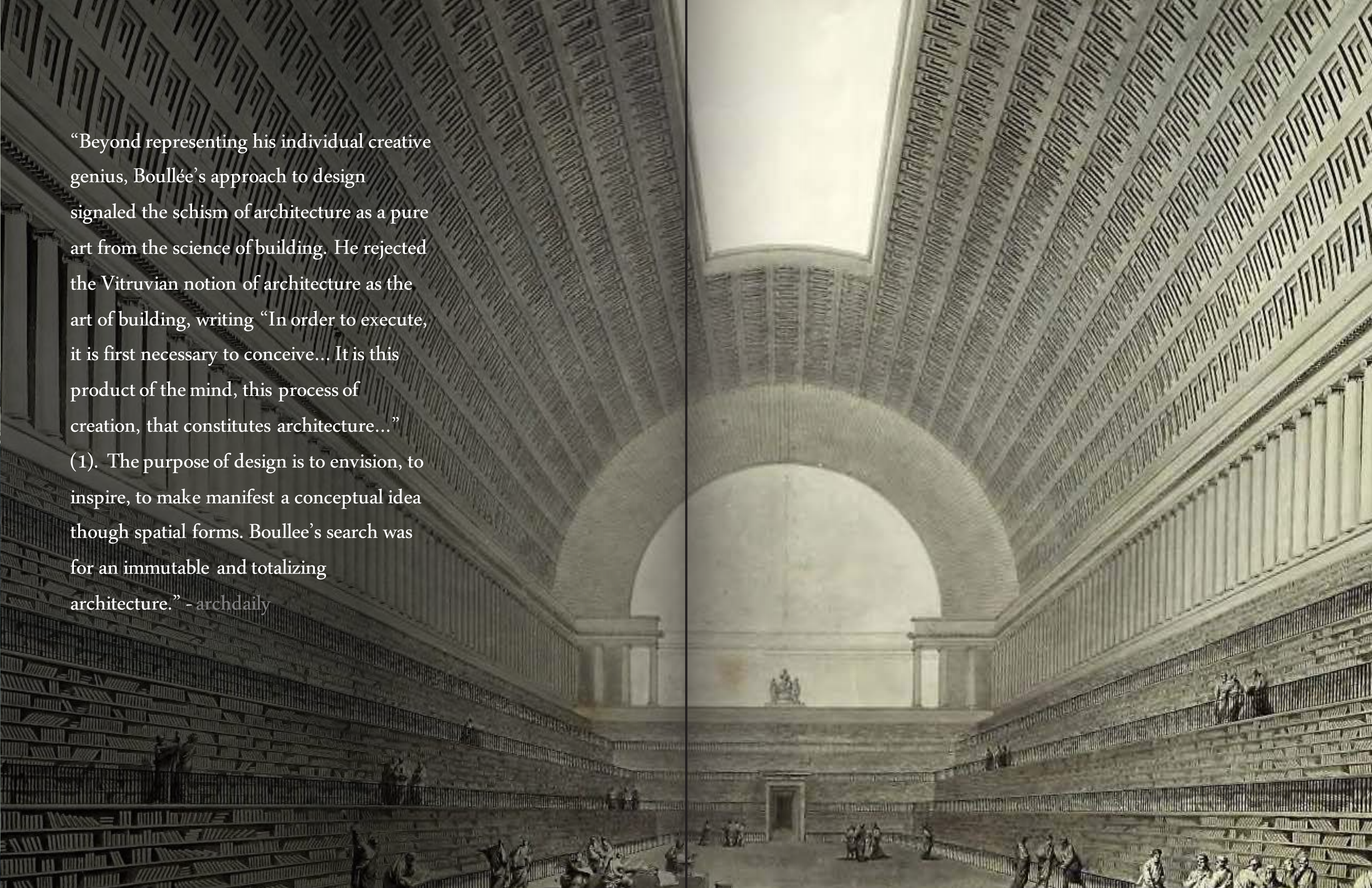


Boullée's proposal marked the end of an era which equally valued art and science, artistic building practice once being a primary medium of communicating knowledge to the general populace. This point also marked a shift in mankind's relationship with the cosmos, beginning the decline of a basic knowledge and relationship with the stars and heavens above, once emphasized through building.



“Beyond representing his individual creative genius, Boullée’s approach to design signaled the schism of architecture as a pure art from the science of building. He rejected the Vitruvian notion of architecture as the art of building, writing “In order to execute, it is first necessary to conceive... It is this product of the mind, this process of creation, that constitutes architecture...”

(1). The purpose of design is to envision, to inspire, to make manifest a conceptual idea through spatial forms. Boullée’s search was for an immutable and totalizing architecture.” - archdaily



ARTEFACT

ARTEFACT.

Based on the principles of Gothic Architecture, Heideggerian ideals, and ancient Jewish Mysticism, the artefact attempts to give an individual the ability to place themselves within the infinite depths of the cosmos. When one gazes into the stars, one may feel a sense of wonder and awe, instigated from miniscule relation of mankind within the universe.

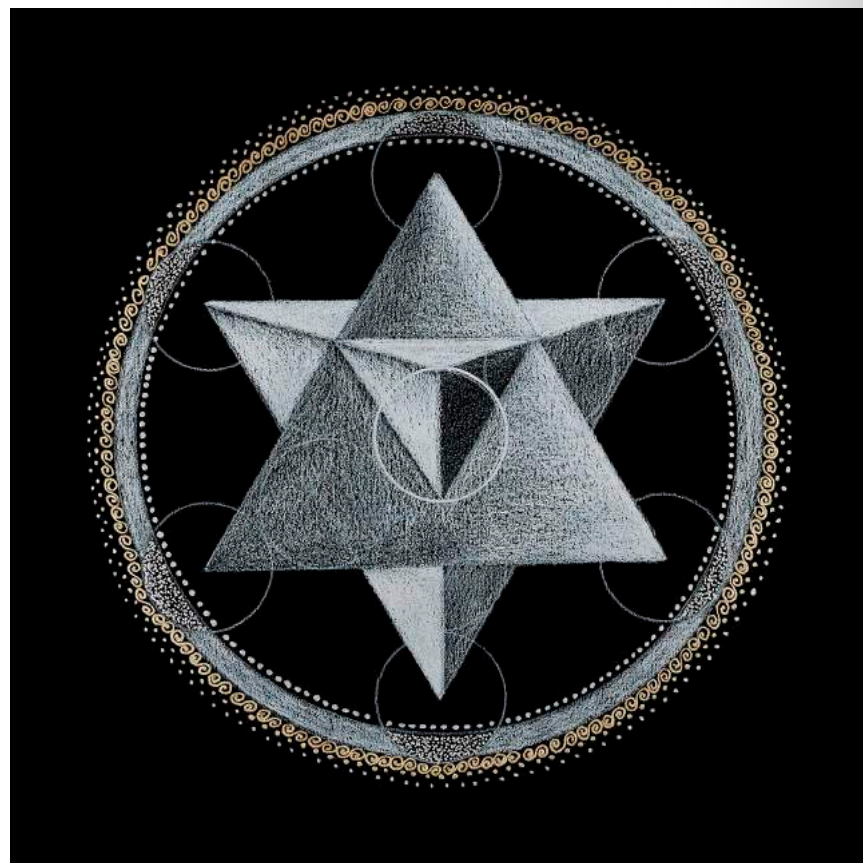


THE MERKABAH.

A concept of ancient Jewish Mysticism still in use today, the Merkabah is derived from *Book of Ezekiel*. The word is Hebrew for chariot, in the Bible referring to a throne-chariot of God. The word has three linguistic components.

Mer— Light
Ka— Spirit
Bah— Body

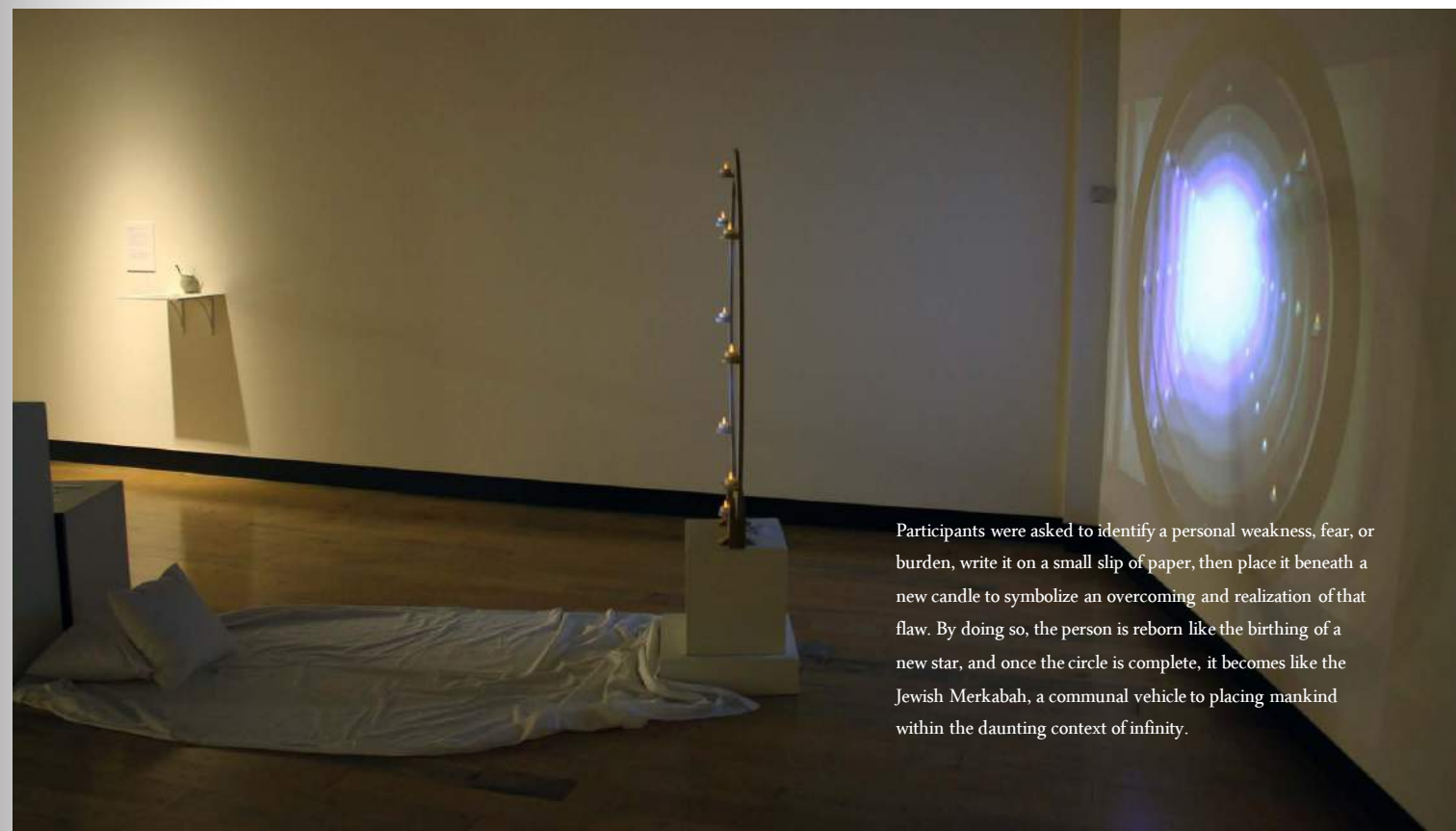
Together, it means the spirit or body surrounded by counter-rotating fields of light, or wheels within wheels, which act as a vehicle to reaching the heavens above.



THE MERKABAH.

The shape can be seen as a three-dimensional Star of David, consisting of two equally-sized interlocking tetrahedral of light, together making an octahedron, a shape with eight distinctive directions.

Meditation practices have been birthed by the Merkabah, based on the Jewish Mystical ideals, called the Teaching of Spherical Breathing, focusing on balance, flow, the shifting of consciousness, and a developing intimacy between self and cosmos.



Participants were asked to identify a personal weakness, fear, or burden, write it on a small slip of paper, then place it beneath a new candle to symbolize an overcoming and realization of that flaw. By doing so, the person is reborn like the birthing of a new star, and once the circle is complete, it becomes like the Jewish Merkabah, a communal vehicle to placing mankind within the daunting context of infinity.



S I T E

NARRATIVE The territory surrounding Horizons' site is comprised of Washington's beautiful rainforest landscape at the southern edge of the Northern Cascades mountain range. Directly south lies Seattle in the distance, its northern suburban and rural districts just coming to an end. The West is the Pacific waterfront, showcasing Samish Bay and its containing islands. The air is crisp, like just after a morning's fresh dew. A barrel of clouds rests on the horizon, the coming cover an inevitable trait of the local climate, participating in an exaggerated semi-annual dance for balance.

Located over an hour from the heart of Seattle, Horizons is placed within convenient distance, allowing for a wide variety of demographics to be influenced. Nested into the south side of Blanchard Mountain, the project lies between established hiking trails and lightly used dead-end roads, allowing ease of accessibility and options for entering the site. The three focal points - the Amphitheater, Exploratory, and Observatory - are linked by carved splits in the mountain, as well as surface hiking trails. If one wishes to enter from the Amphitheater, they can either enter from the East with a vehicle, or the West from hiking trails. If one wishes to enter from the top of the mountain and encounter first the Observatory, this can be done only by using the hiking trails, as reaching the top first requires a degree of journey and pilgrimage.

Linking the three primary site elements is the split in the mountain itself and depth of which each feature is carved from the earth, chronologically emerging with each raise in elevation. Additionally, the cone of vision each supplies expands as one moves upwards, symbolically and literally expanding one's horizons as the progress through the site.

SITE ANALYSIS



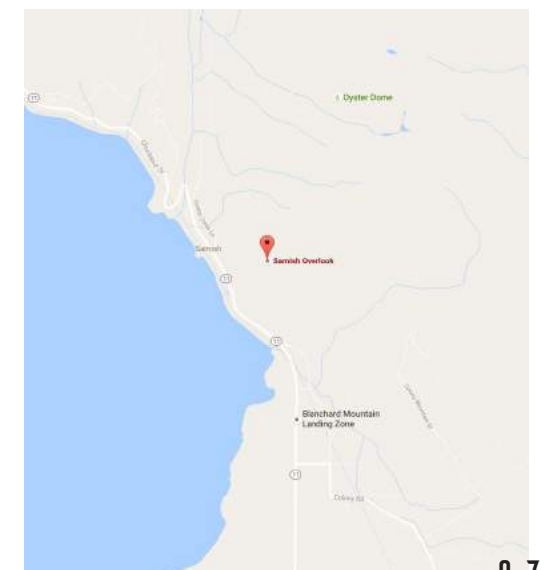
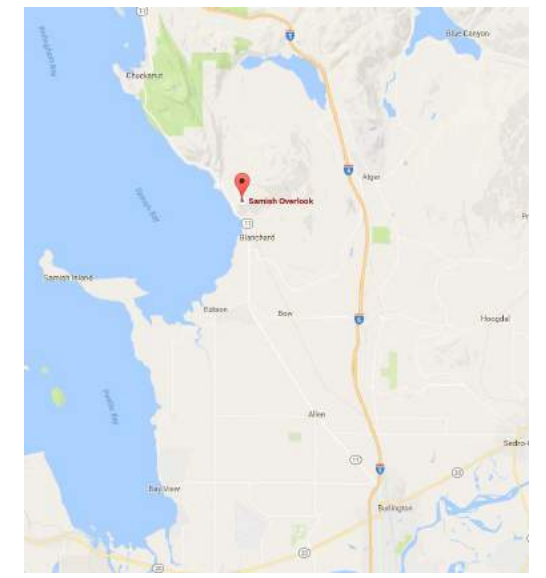
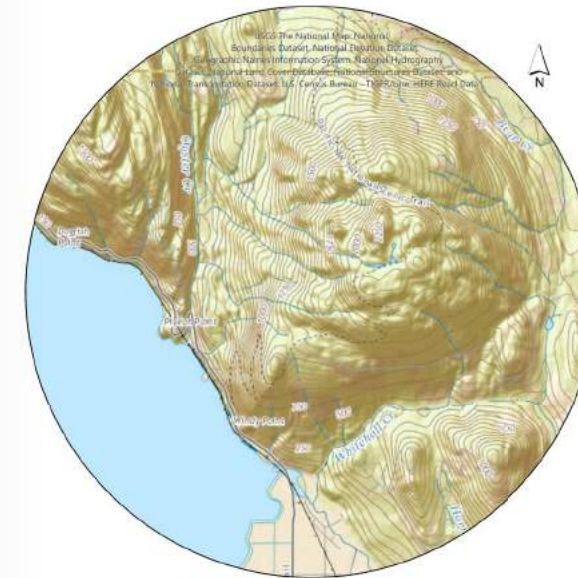
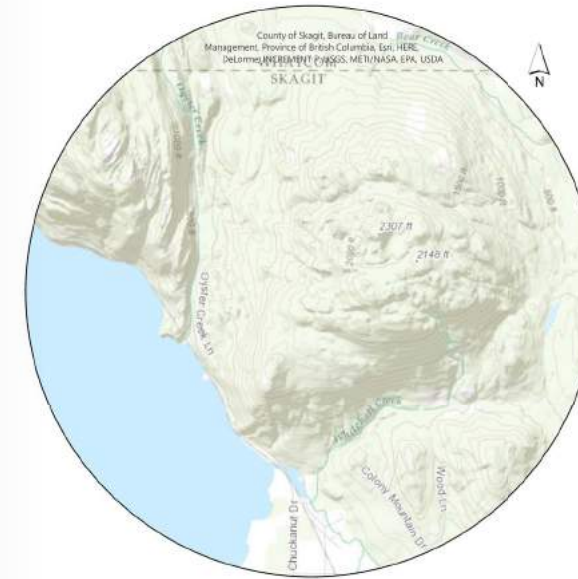
Samish Overlook



Located over an hour north of Seattle, WA, Samish Overlook offers a clear site with majestic views of the city's countryside, Washington's mountainous landscape, and the adjacent Pacific. This site is also the intersection of two hiking trails, one of which begins to the West of the site, near the ocean. There's also an oyster bar near the trail's entrance, providing fresh local cuisine.



This site offers the perfect sense of spiritual enlightenment that Horizons strives for, far enough removed from civilization to reflect, but close enough to influence the neighboring city and its occupants.





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7:00 a.m.



2:30 p.m.



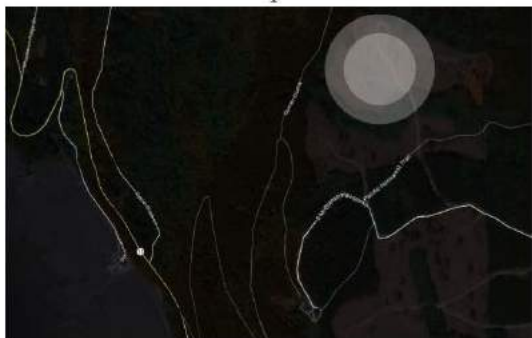
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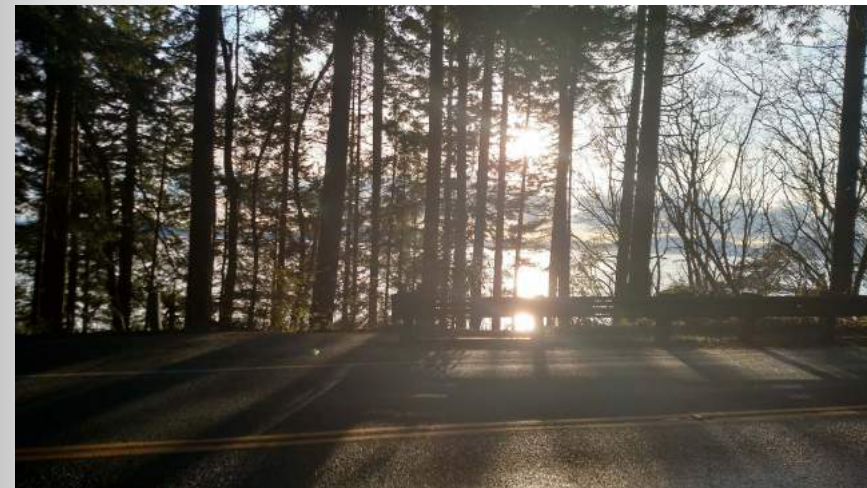
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The site offers perfect illumination as the sun rises, having the desired inspirational effect previously stated. Also, the existing roads and hiking trails perfectly converge upon the site.

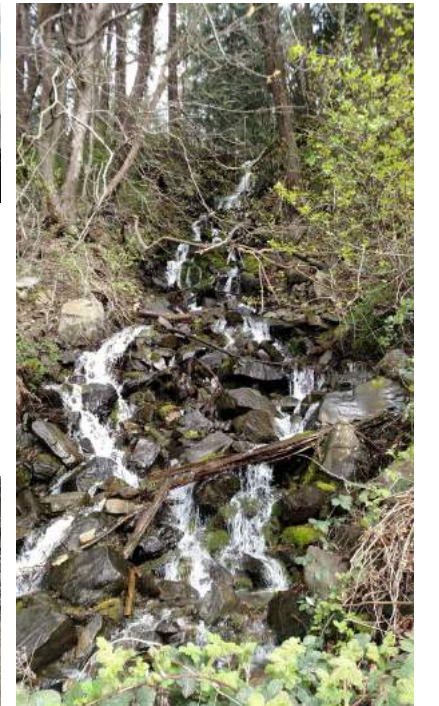


DAY

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This site offers the perfect sense of spiritual enlightenment and pilgrimage that Horizons strives for - far enough removed from civilization to reflect, but close enough to influence the neighboring cities and their population, sitting between the two mid-sized cities of Everett and Bellingham, and overlooking the Samish Bay naval and fishing vessels coming and going throughout the day.



PROGRAM

NARRATIVE

Carved into the mountainside of Blanchard Mountain in the northern Cascades Mountain Range, Horizons plans to implement three major focal points, an Amphitheater, an Exploratory, and an Observatory. Placed apart but linked by a split in the mountain and tunnel systems, the three elements communicate man's chronological progression in relation to the cosmos, emerging from the earth as one moves up the mountain. As one does so, the cone of vision expands, symbolically and literally expanding one's horizons as they ascend through each element. The amphitheater represents man's earliest form of relation to the cosmos, primarily through built structures framing cosmic relations. Its form includes a spherical center stage enclosure, with elliptical riser forms radiating outwards. At the top of the risers are public balconies carved from the mountain, allowing maximum views and engagement from the audience. This is where the split in the mountain begins, a tall and narrow pass which holds an artistic geometry symbolic of the symmetric and interdependent human brain supported by eight pillars.

The next stage, the Oculus, is representative of man's next primary means of cosmic relation, through artistic depictions. Here, artists are invited to showcase stellar artwork open to the public, and a permanent art installation called the Oculus allows people to enter a large orb, internally cased in Stilpnomelane, a mineral from the same mountain. This mineral will be used throughout most of the project, due to its natural aesthetic and Greek etymology, meaning "shining in the black". Although this building emphasizes art, a digital screen will be used on the outside of the mineral, shifting its interior luminance based on the patterns of the stars above. This way, each time a person enters the orb, a different pattern of constellations will be portrayed.

The final stage is the Observatory, which is used for stellar observation, but also includes the most innovative digital technologies, incorporating laser and holographic displays in real space to immerse an occupant completely into interstellar exploration. Additionally, a major site element will be carved from the mountain, fittingly dubbed the Carve. Here, the mineral is left bare to the sky, and a slight curve outwards allows people to directly encounter the mineral and move about it, as well as feel the warmth from its dark absorbant qualities. This checkpoint will be a great opportunity and place to stargaze and observe the rich Washington landscape.

PROGRAM

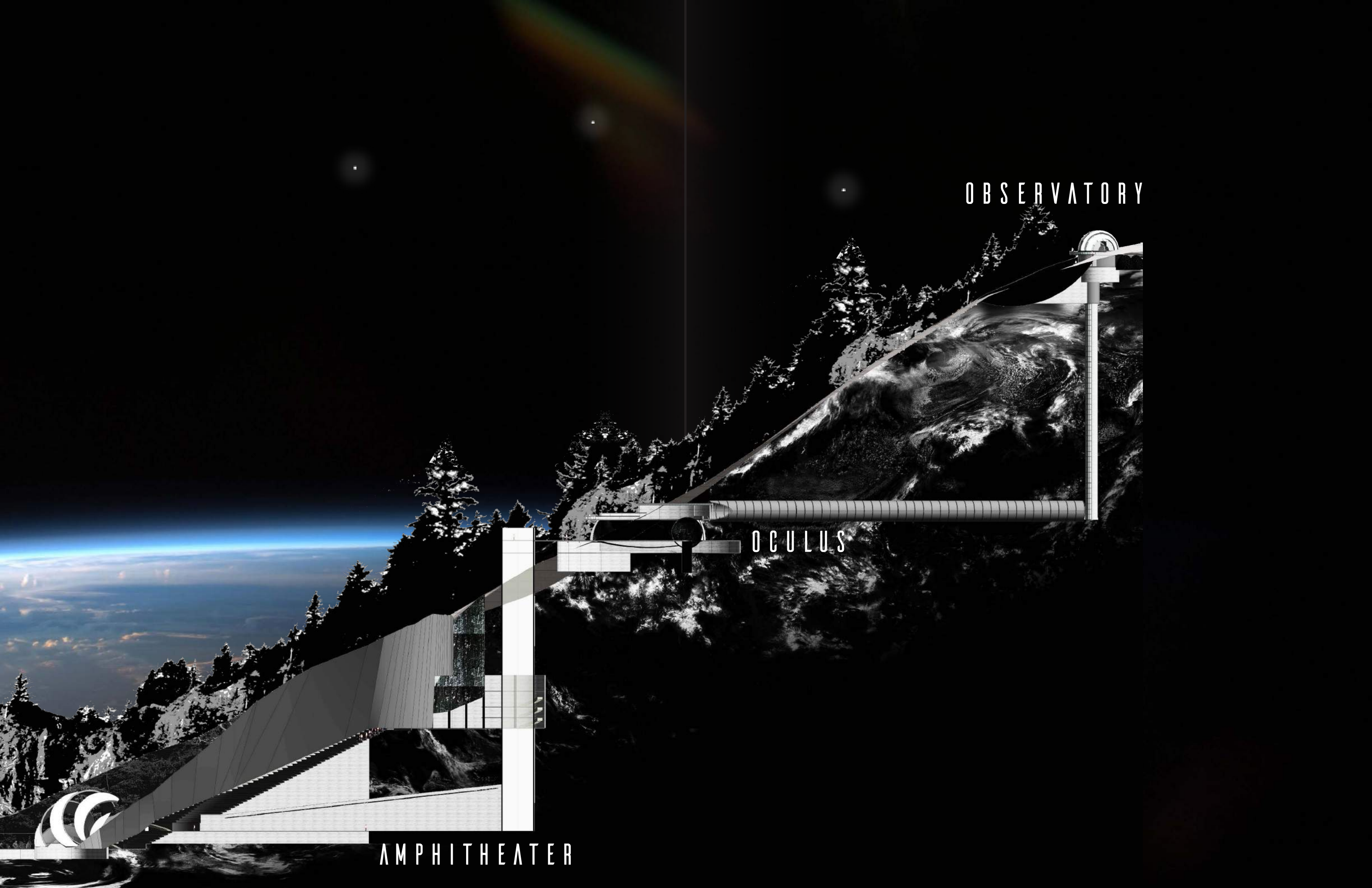
Horizons will have three primary focal points, emulating a progressing emergence from the Earth to the heavens and stars above. Encompassing both the past development of Man and his future possibilities, an occupant can completely immerse themselves in what it means to be human, igniting a spark that's shared with those around. The spatial arrangement of Horizons attempts to embody cosmological phenomena, reflecting upon itself a mirage of the stars above, allowing one to gaze wonderingly, socialize meaningfully, and place one's self within the infinite context of the cosmos.



OBSERVATORY

OCULUS

AMPHITHEATER





OBSERVATORY

The highest point on the site, the observatory can be used by the public for optimal cosmic learning; able to peer into the cosmos using the 76 cm telescope, stargaze within The Carve, or explore the universe using one of four Exploratories.

OCULUS

Serving as a midpoint and space for reflection, the Oculus emphasizes creative depiction of the cosmos, housing the Orb as well as space for exhibition of stellar artwork.

AMPHITHEATER

The lowest point on the site, the amphitheater is widely used for community gathering and is the primary source of generating revenue for the project. Housed here is the Split as well as viewing balconies carved from the face of the rock and refreshments outfitting the theater with a fully-equipped performance venue.

Furthest emerged from the earth, the observatory resembles man's modern relationship with the cosmos, utilizing telescopic photography and digitally-immersive technologies to put the exploration of the universe within reach of the general populace.

The Oculus embraces man's pre-modern medium for cosmic translation, using artistic display to reverse occupants perspectives with alternative means of interpreting the cosmos.

Representative of early humanity's means of cosmic translation to the public, the amphitheater is carved directly out of the mountain, and embodies the most ancient and terrestrial form of public relation with the heavens and stars above, celebrating the stark contrast between earth, sky, and their metaphysical and inspirational link — the horizon.

SPACE LIST

Function	Capacity	No. of Units	Area/Unit (ft)	Net Area (ft)	Subtotal
Observatory					
Telescope	20		1200		
Cloakroom	5		250		
Exploratories	12	4	250	1000	
Comm. Quarters	30		600		
Circulation				2600	
Restrooms	20	2	300	600	
Small Elevator	8			400	5,715
Oculus					
The Orb	4		700		
Exhibition	100		4000		
Circulation				9000	
Restrooms	20	2	300		14,000
Amphitheater					
Seating	12,000			32,500	
Bar Area/Balconies	500	4		11,500	
Circulation				25,800	
Stage				8,000	
Lower Tunnel				8,000	
The Split				1,000	
Large Elevator	30			700	
					87,500
					107,215 sq. ft.

BUILDING AREA SUMMARY

Space Name	Capacity	Net Area	Net : Gross	Gross Area
Observatory	120	5,715	.5	11,430
Oculus	250	14,000	.5	28,000
Amphitheater	15,000	87,500	.6	145,833

185,263 sq. ft

LAND USE REQUIREMENTS

	Capacity	Gross Area	Floors	GAC	Land Area
Observatory	120	11,430	3	.40	28,575
Oculus	250	28,000	3	.25	112,000
Amphitheater	15,000	145,833	4	.15	972,282
Trails		12,000			
The Carve	50	10,000			

* Outdoor Auditorium land area overlaps with Cosmic Learning Center land area

PROBLEM STATEMENT

FUNCTION

Since the major use of the building is educational and assembly purposes, the communicated information must be constantly developing alongside the most current discoveries in both technology and space. A specialist should be hired to monitor the current findings, and should maintain an extensive database.

Since the location of the site is far removed from the grid, passive strategies should be implemented.

ECONOMY

The building's primary source of revenue will be obtained from the Amphitheater, which will host events weekly, generating profit from the surrounding populace and their interest in entertainment and/or guest lecture. Provided for free will be public availability to use the amphitheater for fitness purposes, group or individual.

FORM

Since the building is meant to serve as a symbol, the form must be iconic and striking. The entry should celebrate the journey there, the interior should include extremely tall ceilings to emulate the Gothic era of architecture, and the overall height of the building should seemingly reach for the heavens.

Many of the elements must correlate with astronomical elements, especially rotational and elliptical aspects, providing a cohesive and intriguing form.

TIME

Since the building is located in a relatively remote location, design should adapt to the occupants spending a majority of their day here. Accommodations and comfortable areas are necessary.

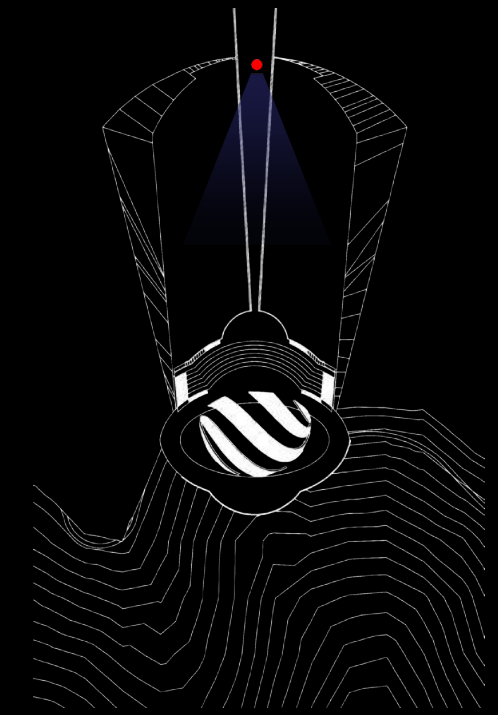
Given the star-gazing components of the building, there should be programs and staff available overnight, but will be there for support and will generally not bother the occupants.



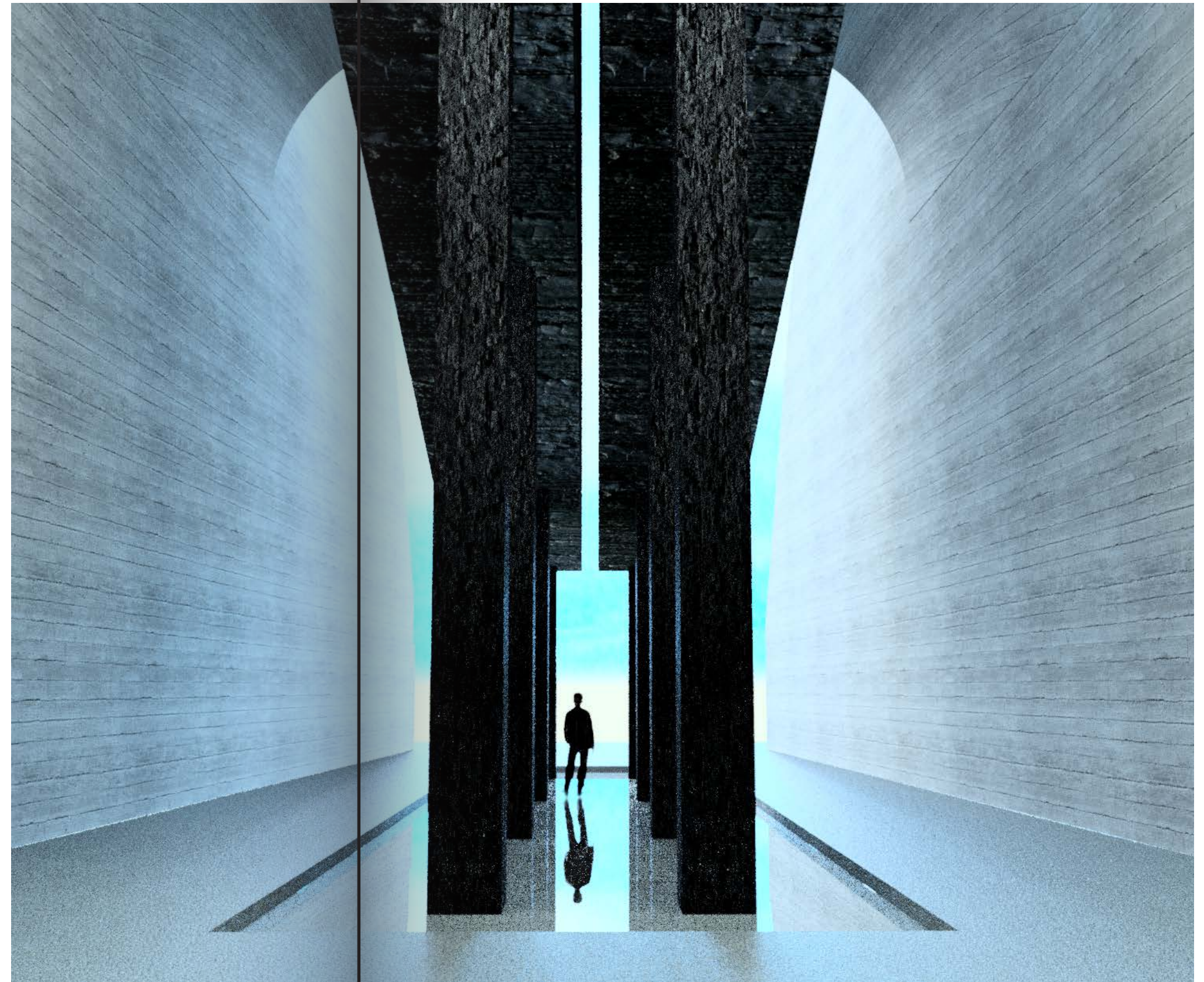
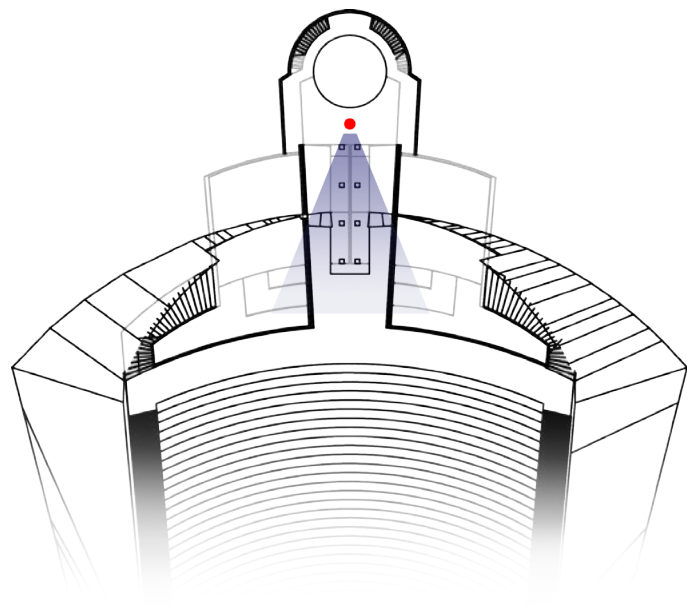
AMPHITHEATER



Opening directly to a viewing balcony on level with the stage, the Lower Tunnel is an homage to the NewGrange tomb in Ireland, oriented directly south to illuminate the passageway and the sparkling mineral, Stilpnomelane, exposed from the earthen ceiling carved from the mountain.



A reward for either passing through the lower tunnel or ascending the amphitheater, here is where the linking element of all three focal points begins — the split in the mountain.



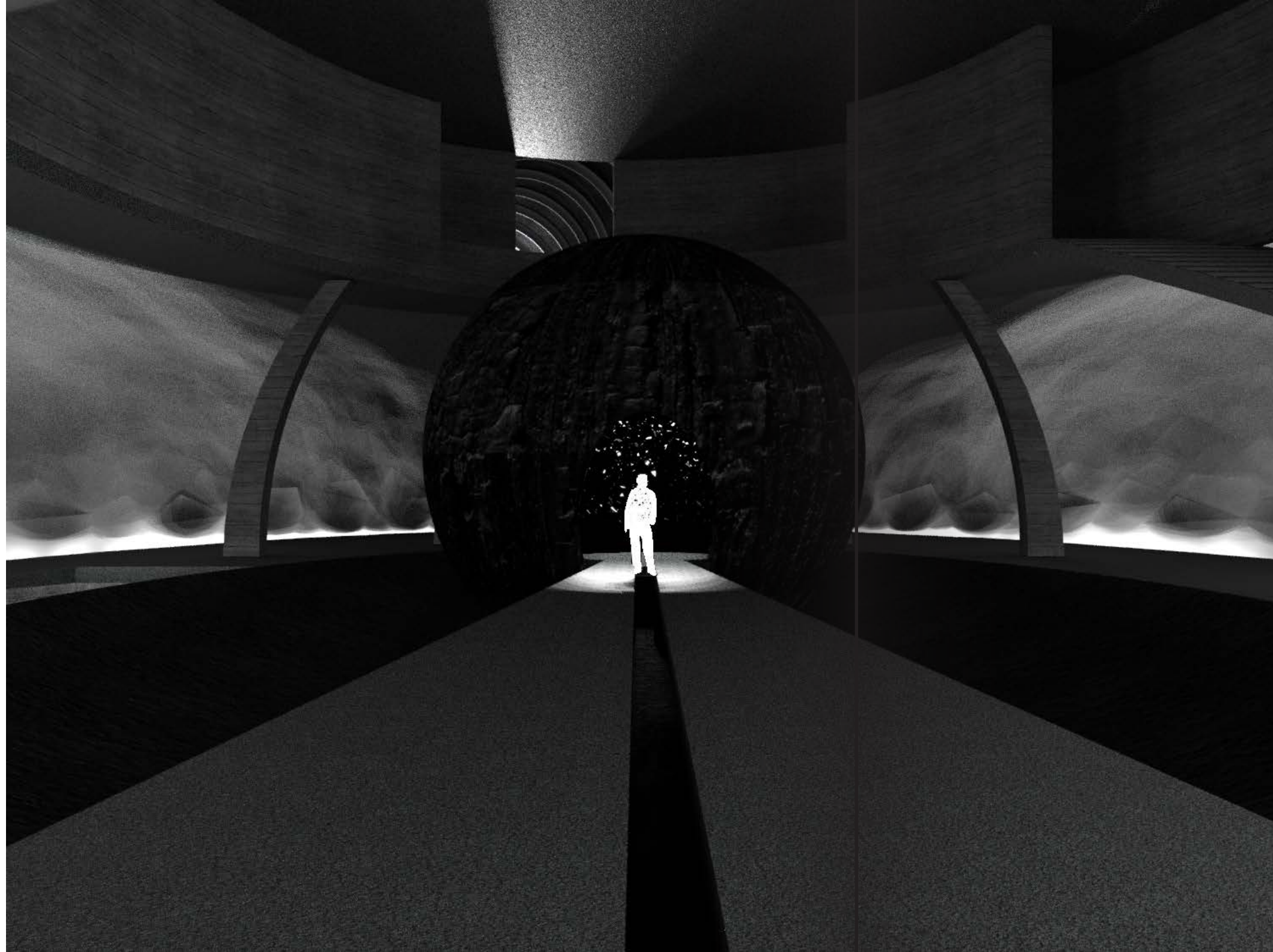


Here, two masses of earth are supported by eight pillars, and are split evenly up the center, able to be peered into by those passing beneath. An observer could witness the sparkling between the two hemispheres, symbolic of both the birthing of new stars and the firing neurons of the human mind.

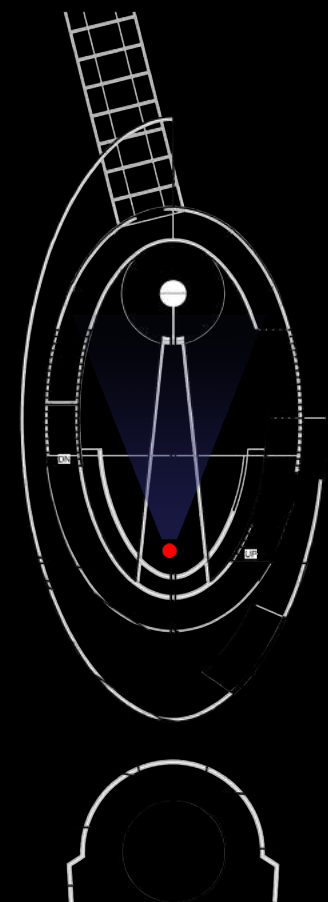
THE SPLIT



O C U L U S



Serving as the midway vantage point, the Oculus turns sights away from the horizon, looking inward towards artistic renditions of the cosmos.



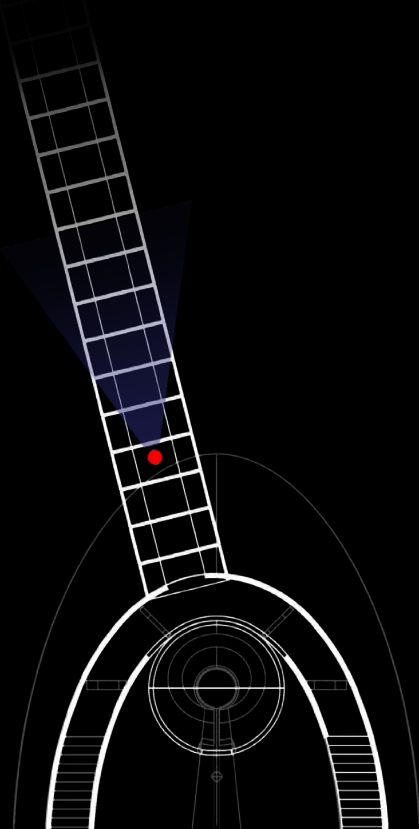
Here, art is recognized for its historical importance in relaying stellar concepts to the common folk, and demonstrates how it can further do so effectively utilizing modern digital technologies.

This particular example would utilize digital screens encased in Stilpnomelane to project the current cosmic arrangement through the mineral, shifting the surrounding constellations throughout the day.



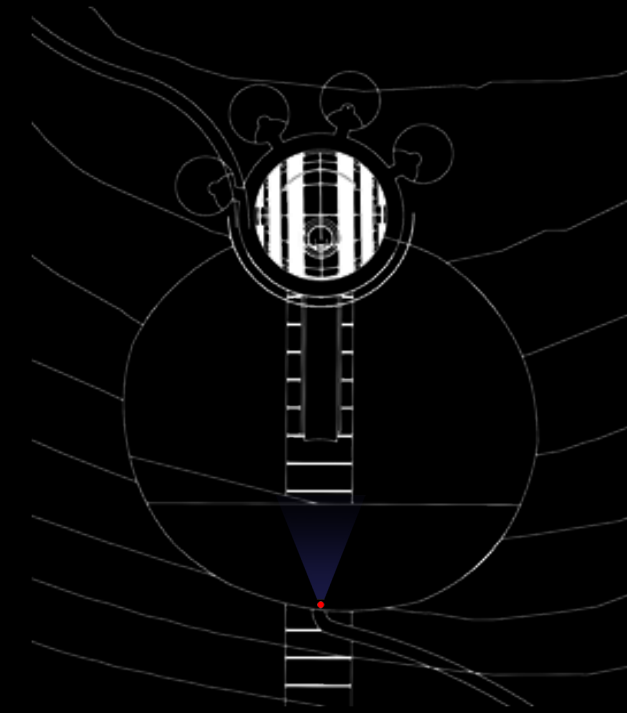
THE ORB

Linking the Oculus and the Observatory,
the Upper Tunnel utilizes typical tunnel
boring techniques, yet uses specifically
placed lighting to illuminate the structural
system, simply and effectively creating a
'light at the end of the tunnel' effect.





OBSERVATORY

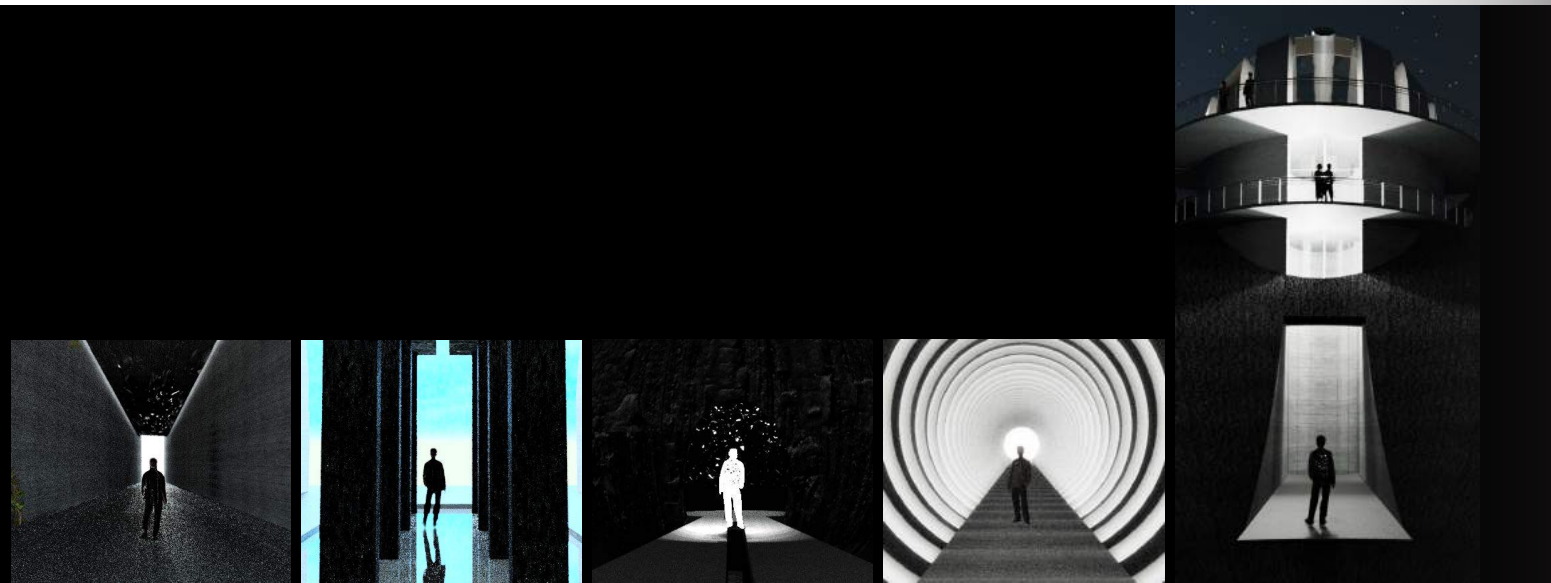


The top-most focal point of the project, the Observatory represents the modern era of mankind's relationship with the cosmos; celebrating the telescope, housing personal exploration chambers, and supplying panoramic viewing balconies for ultimate views of the Washington landscape. Here, the earth is carved out into a bowl, intended for stargazers to lay back and literally feel the stark contrast between earth and sky. It is also the final stage of the split in the mountain.

Occupants are given the means to explore the known universe at their own discretion, given access to the telescope as well as a one of four Exploratories, using a spherical navigational instrument to explore and discover beyond Earth.



THE EXPLORATORY



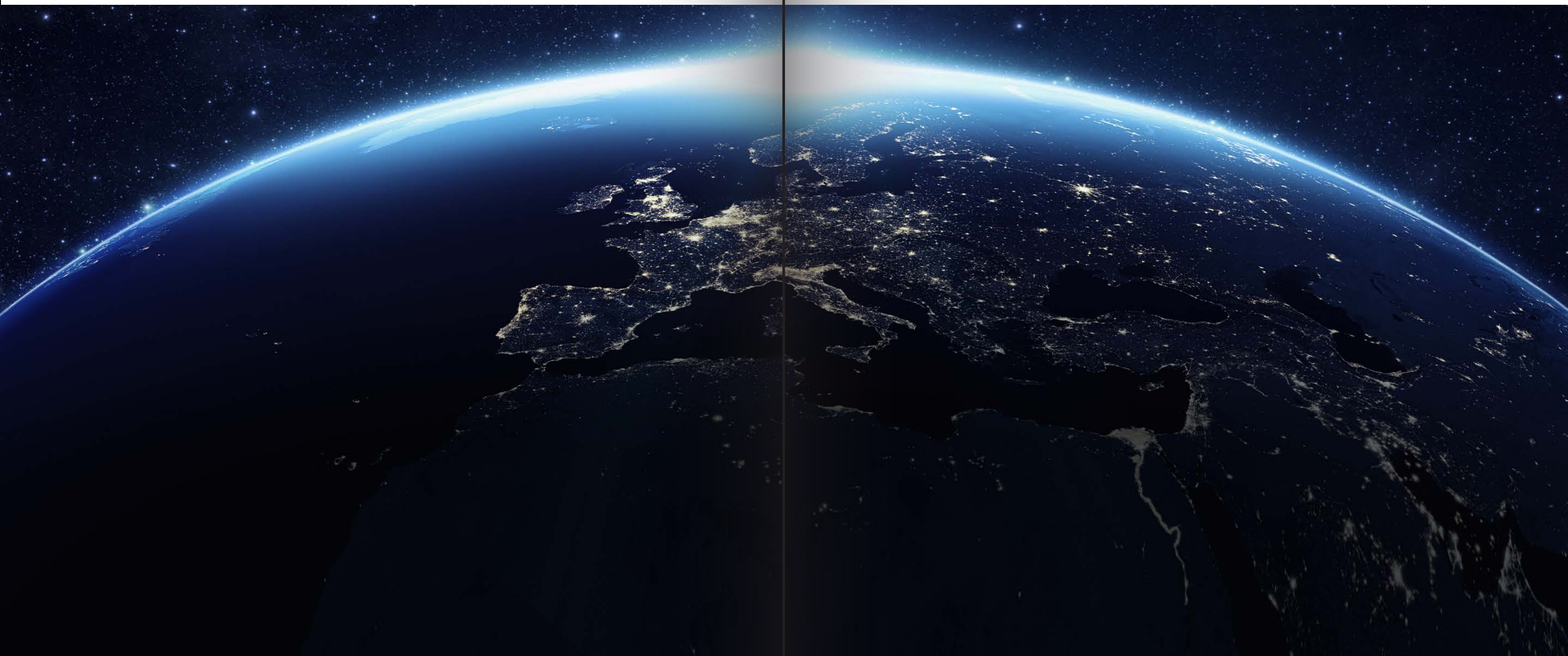
LOOKING IN



LOOKING
OUT



Through this act of pilgrimage, the stark contrasts between — earth and sky, dark and light, inwards and out — consistently reverse one's perspective, each emerging checkpoint revealing a bit more of the horizon. By doing so, the work attempts to reveal the relationship between mankind's not-so-ancient past and his hopeful future, both easily dismissed by the present day man. Yet as innovation accelerates beyond traditional culture and space colonization approaches, ancient symbols can be carried through to culturally contextualize our future buildings. Found among all cultures, cosmologically-oriented buildings are an example of typologies which invoke and inspire deep subliminal emotions, linked to mankind's inherent history of heavenly relationships and cosmic origins.





As modern society enters yet another space race, humanity has the opportunity to link opposing views under a common banner—the interstellar exploration and colonization of the cosmos—becoming an inspirational cornerstone of future culture. For it is Man's inherent curiosity that compels him to question established knowledge, discover new truths, and dream beyond the horizon.



“To head toward a star—this only.

To think is to confine yourself to a single
thought that one day stands still like a star in the world’s
sky.” — M. Heidegger: *Poetry, Language, Thought*

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NAAB CRITERIA

A.1 Professional Communication Skills

My writing ability has come through in this project, successfully linking pictorial and linguistic elements to portray an effective message to the audience. Encompassing research intertwined with a visually-striking presentation, the project used optimal imagery to relate such concepts, and directly relates to the architectural representation and designs.

A.6 Use of Precedents

The precedents selected pertain particularly well to the project, spanning across a wide variety of typologies for successful architectural examples. While each precedent hones in on very specific characteristics, the focus on each is more oriented towards each building's cultural impact, the project using a theoretical approach as an analysis of current culture and its future possibilities.

B.1 Pre-Design

The project's clients are derived from an existing fan-base of the site, Samish Overlook, which is recorded to have over 30,000 visitors every year. The site is located between three major towns in Washington, and is also the intersection of existing roads and hiking trails on Blanchard Mountain. Existing site conditions are considered, the project being placed within the Overlook's framework as well as the topography.

C.2 Integrated Evaluations and Decision-Making Design Process

Identified problems for this project lie outside of strictly architectural issues, identifying cultural issues as well in an attempt to make a significant cultural impact. Embodying the future colonization of the cosmos and mankind's historical relationship with the stars, the project incorporates these aspects into a building program, using cosmological geometries and motion combined with subliminal romantic experiences to evoke powerful notions within the occupants.

ABOUT THE AUTHOR

AARON WARNER
952.836.8578

PAST PROFESSORS

STEPHEN WISCHER

Instilled architecture as a historical and culturally relevant practice, providing insight and guidance in the realms of Architectural Theory.



MALINI SRIVASTAVA

Taught optimal building strategies and promoted sustainable design, promoting an ideal future of building practices through rigorous and intensive courses.



BAKR ALY AHMED

Introduced many structural and mechanical concepts, demonstrating a practical example melding architecture and engineering while also maintaining the student's vision of grand building.



STEVE MARTENS

Taught my first course which integrated structurally sound building with linked cultural and linguistic elements, all-the-while showing profound wisdom, capable know-how, and a warm heart.



Since early on, I've had the creative itch, finding buildings and their forms fascinating at a young age and having a keen interest in drawing. My beginnings in architecture began with drawing simple skylines and cubistic geometries along the edges of my notes. This interest only increased as I became involved in video-gaming, the immersive environments intriguing my curiosity of imaginative design.

I have a passion for pushing the boundaries of established knowledge, and a project revolving around the cosmos seemed a perfect typology for testing the theoretical limits of the architectural profession here at NDSU. While I have experience in construction and have acquired technical skill to be applied in practice, I find it important to maintain a degree of pioneering and creativity, especially in the design field. I play a variety of instruments, greatly enjoy taking yearly snowboarding trips, and have an affinity for water, my childhood summers spent mostly in Minnesota lakes. I believe wide foundations of experience can produce well-rounded designers, able to excel in both architectural practice and theory.



THANK YOU