

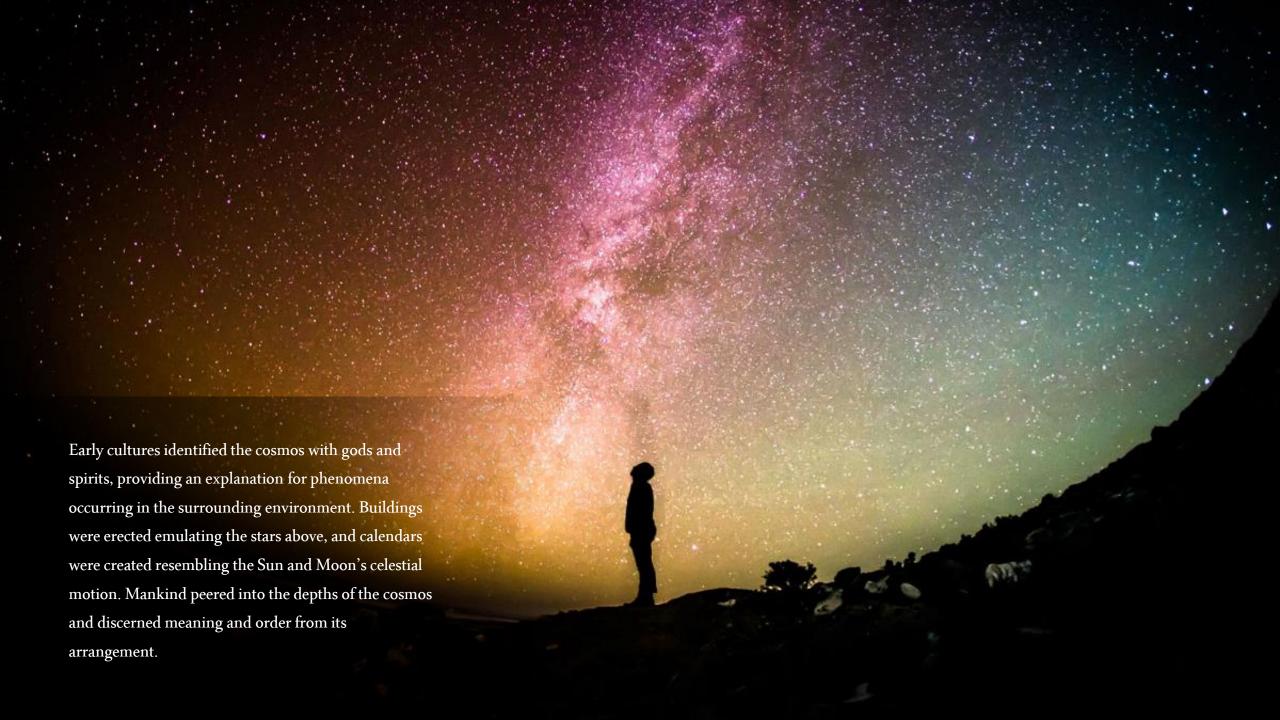


Since the widespread acceptance of the computer - and its poster child, the Internet - digital technologies and media have become a staple in modern society, now being increasingly utilized by the general population. Our digital technologies have assisted in the learning about the cosmos, but as they 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.

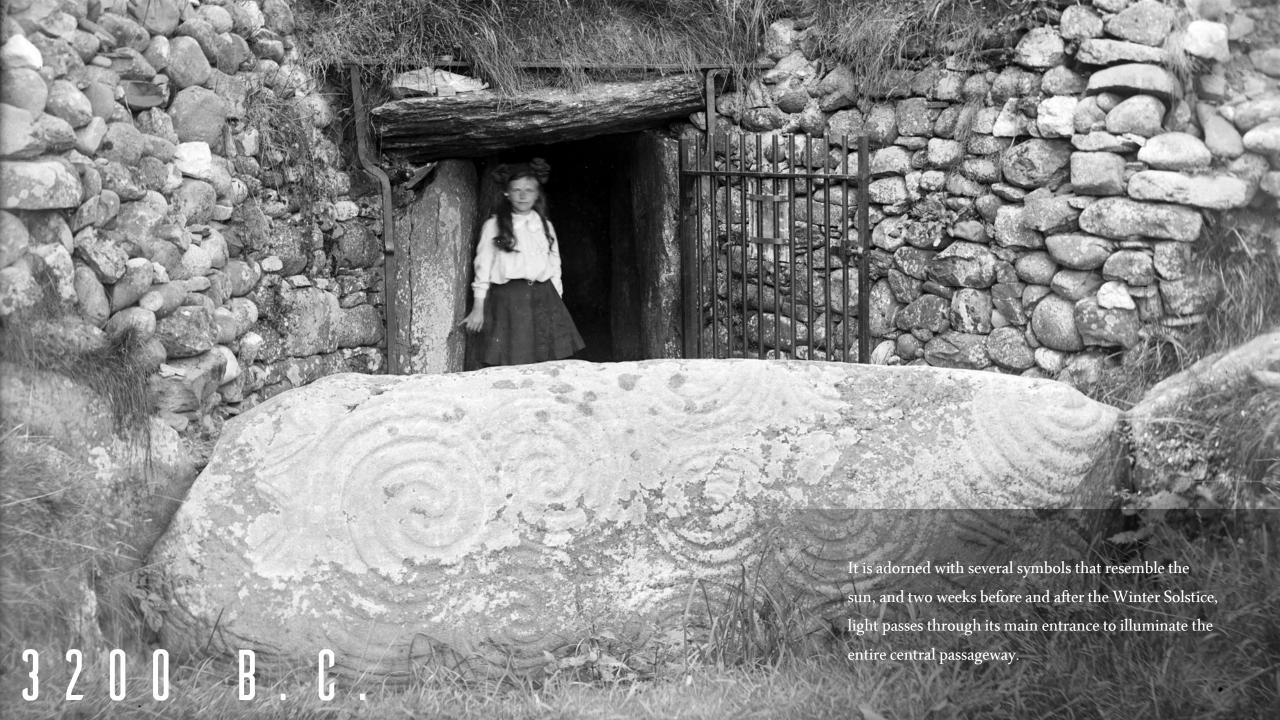




However, it was the past development of both science and art in relation to the cosmos that has propelled and inspired countless theories and technologies to deepen our understanding of the universe.



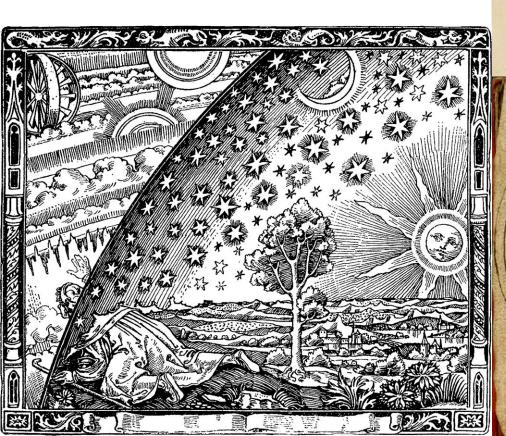


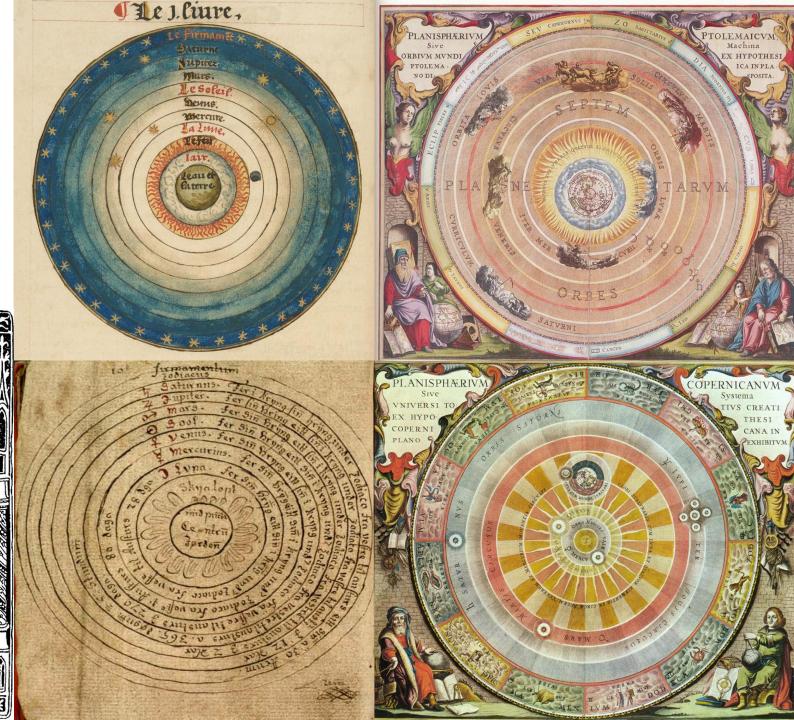






Whichever ancient culture we observe, we can be certain that they all determined Earth at the center of the universe. The Hindus saw the sky resting on an enormous elephant's tusks, the Egyptians saw an arched body of the goddess Nut, and the Babylonians saw the sky as the inside of an immense bell jar.

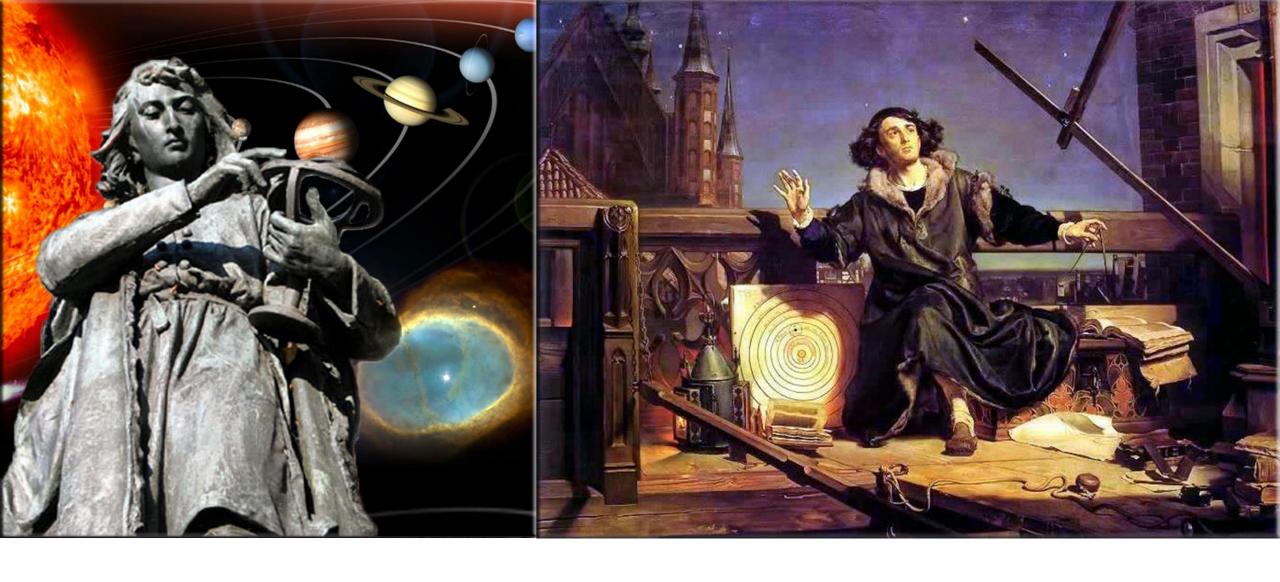




The introduced philosophies of Plato complemented these world views, built upon the perfection of circles, spheres, logic and deductions instead of the limited human senses. This new world view was captured in the *Algamest*, written by Ptolemy of Alexandria, a famous ancient Egyptian astronomer. Using Plato's perfect system, the *Algamest* 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.



5 0 Λ.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.

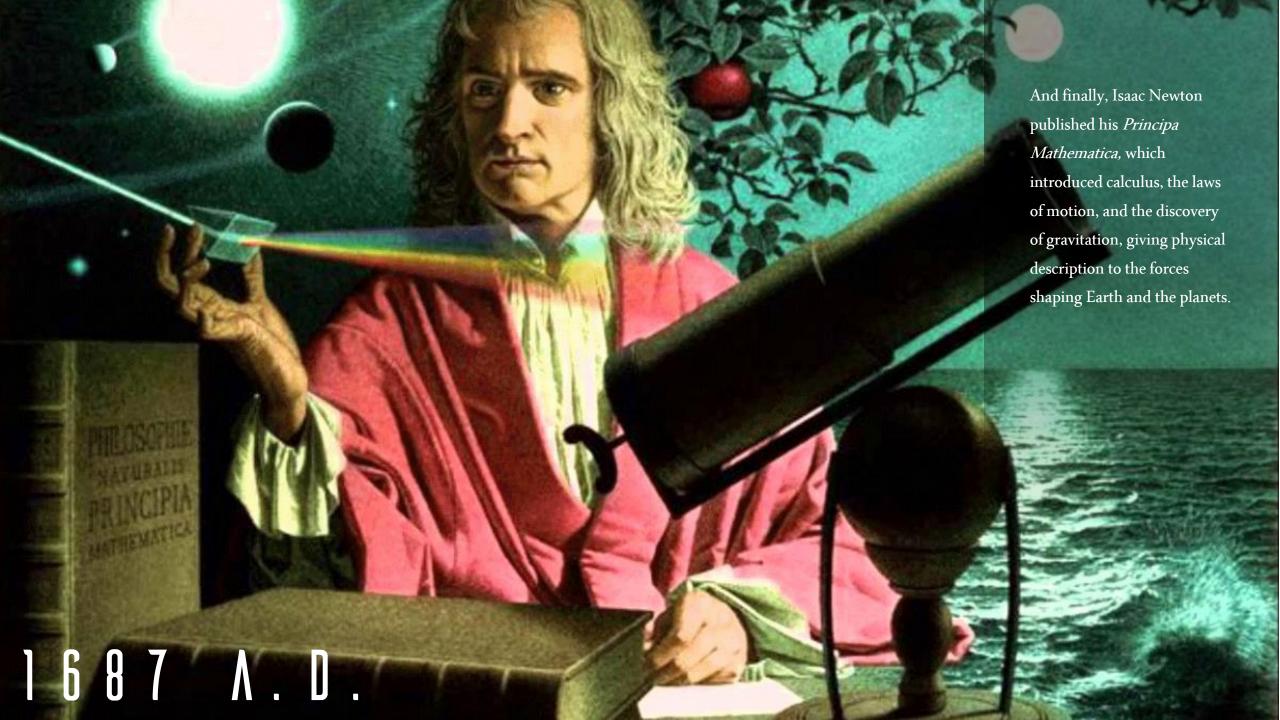
1540 A.D.

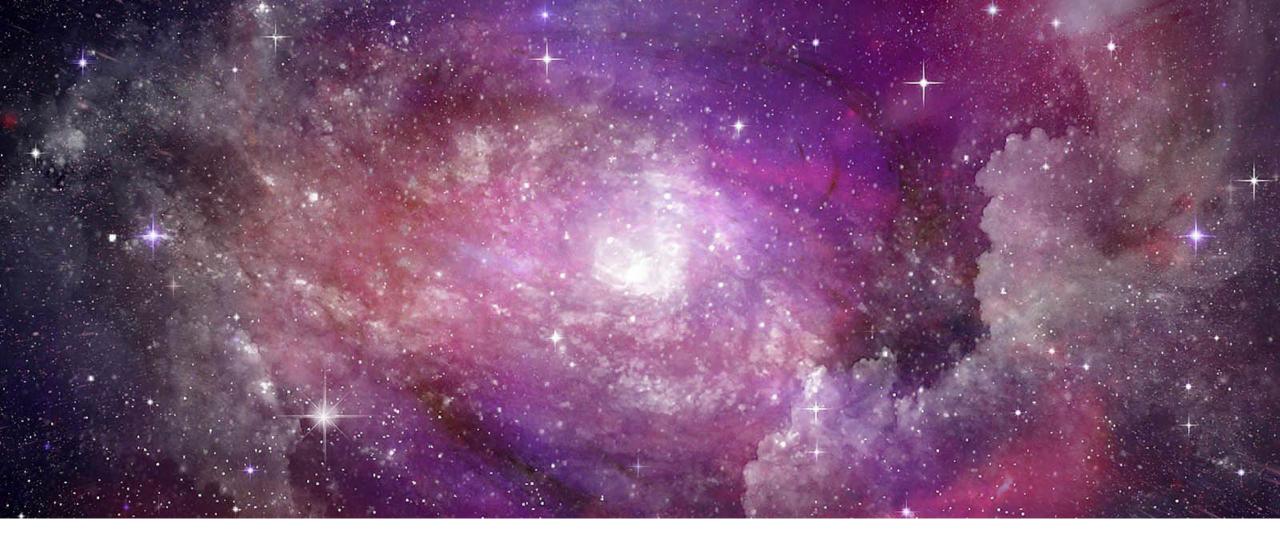
Soon after, Galileo Galilei proposed his astronomical ideas using the new scientific method and telescope, discovering spots on the sun, mountains on the moon, several moons orbiting Jupiter, and the orbital phases of Venus, directly contradicting the established Geocentric model. Although he did not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



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.







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)



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.







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)

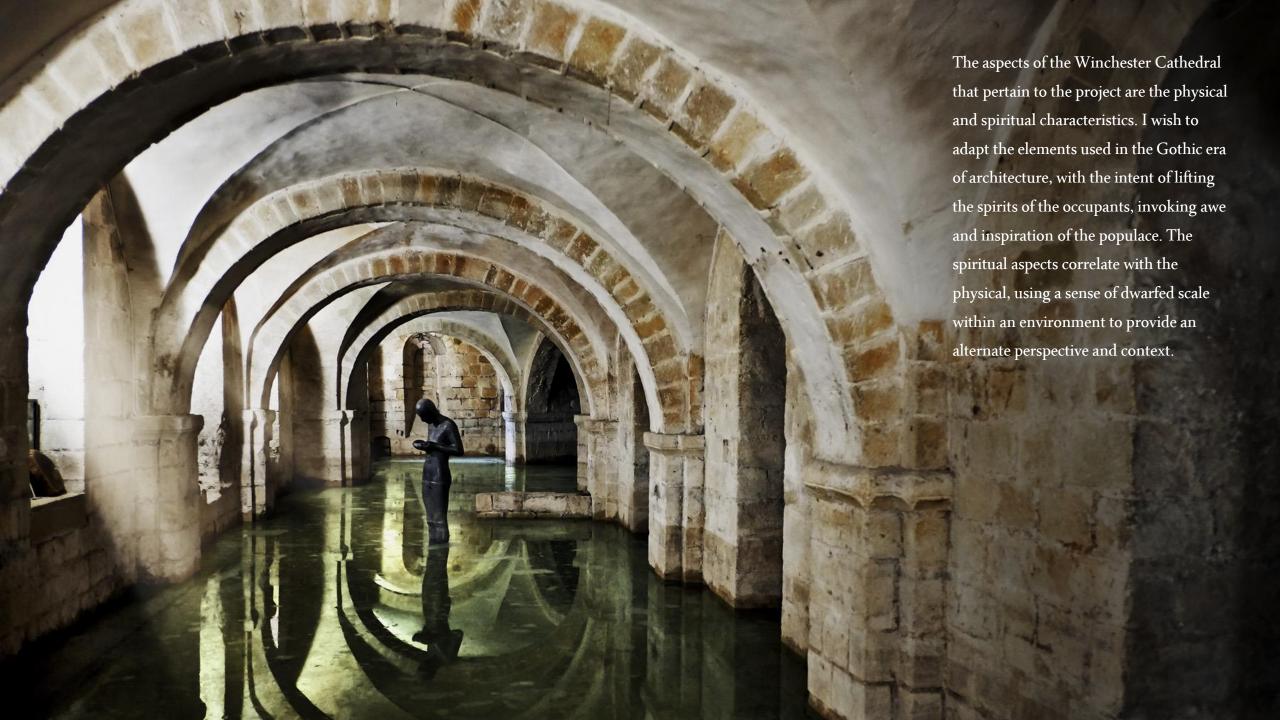
The personal relation and participation through art was replaced with literal depictions, dissuading interest and inspiration for what lies beyond Earth's atmosphere, that is, until the recent developments of our digital technologies and the increasingly popular virtual reality.

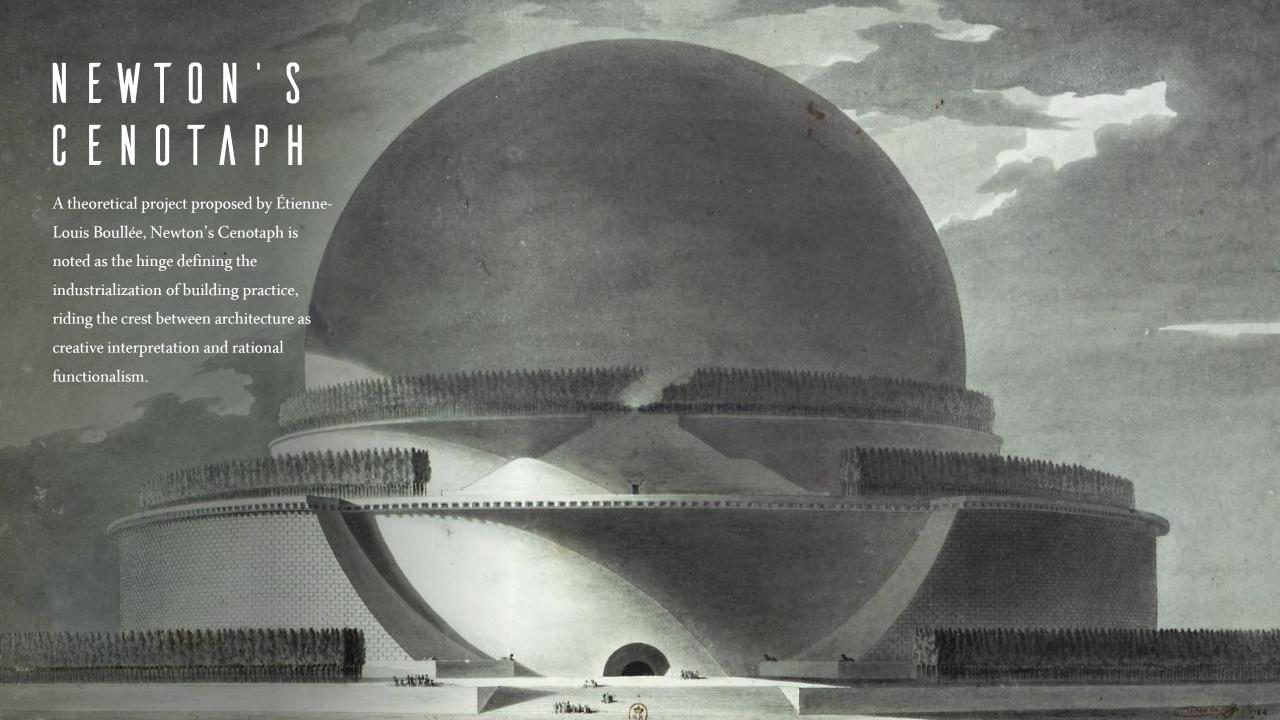




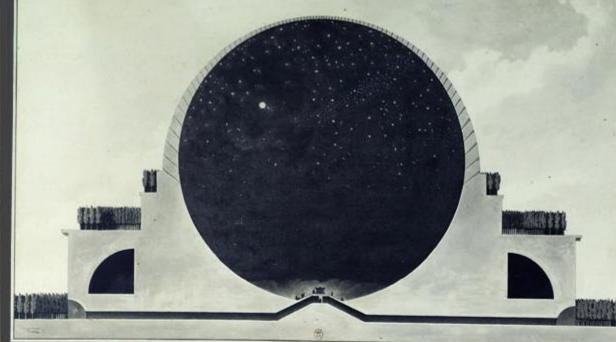




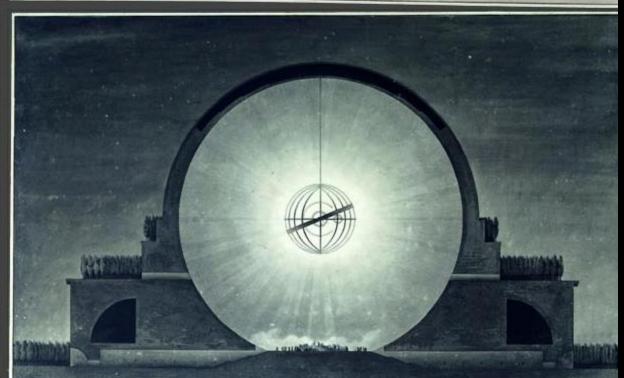


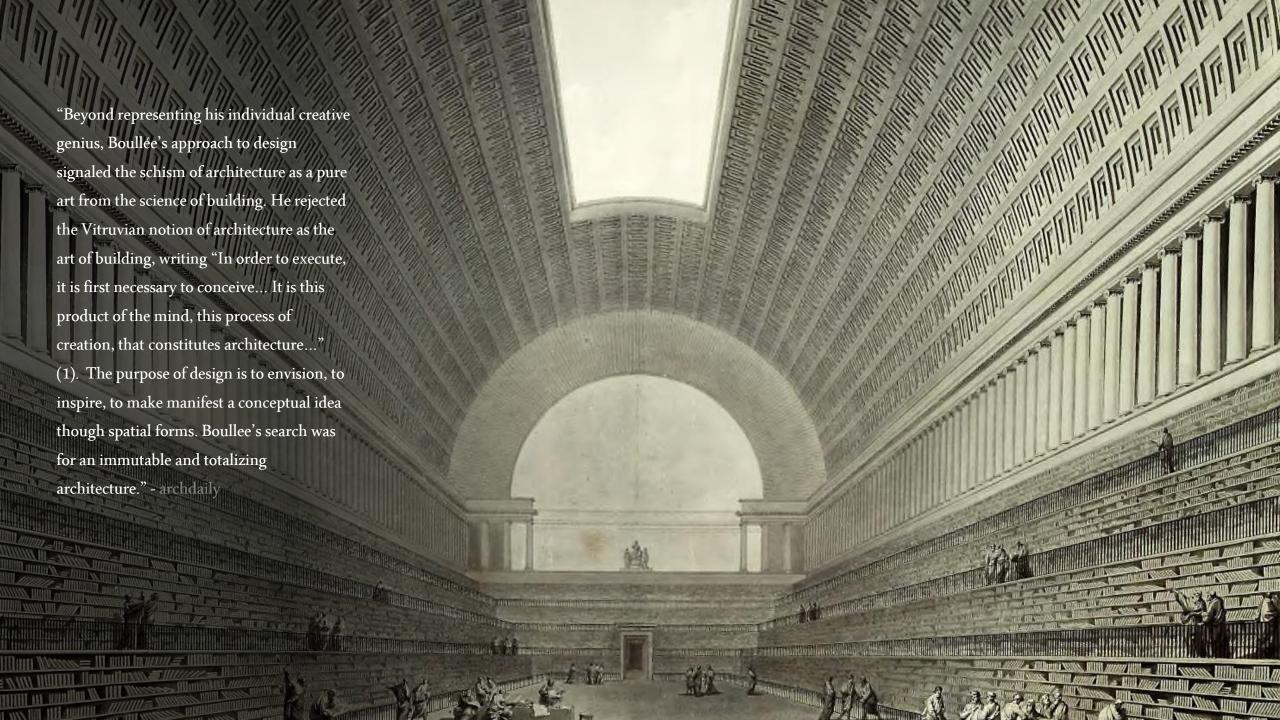


Honoring Sir Isaac Newton, the cenotaph places Newton's final resting place in the bottom-most center of the sphere, while the immense chamber is filled with darkness, broken only by small punctures in the envelope to allow bits of light to shine through — simulating stars in the night's sky.



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.





S P H I N X O B S E R V A T O R Y

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.





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 Horizons strives for, the quest for enlightenment through knowledge. Being an extremely difficult vacation destination, the Sphinx Observatory became a sort of pilgrimage for many physicists and astronomers.







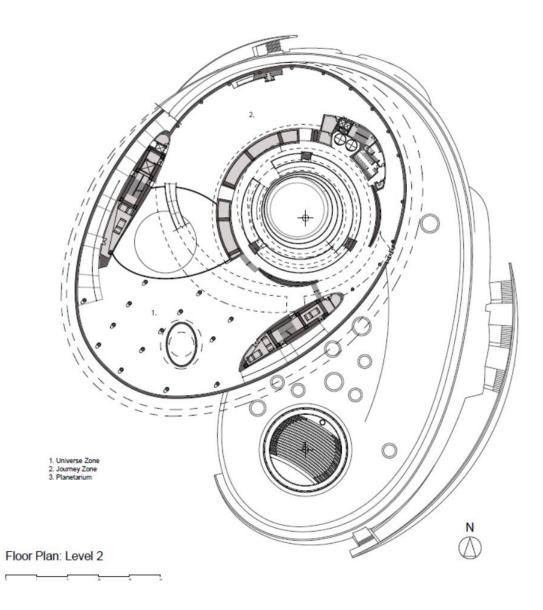
Its visitors center contains a few exterior balconies viewing the natural Colorado landscape, but also contains a rather large series of public spaces, each commemorating the rich history of past performances. These halls create a memorial which enables music to live on in history. As well as being culturally contextualized, Red Rocks is also open to the public for fitness activities, attracting many to the venue even during the absence of an event.





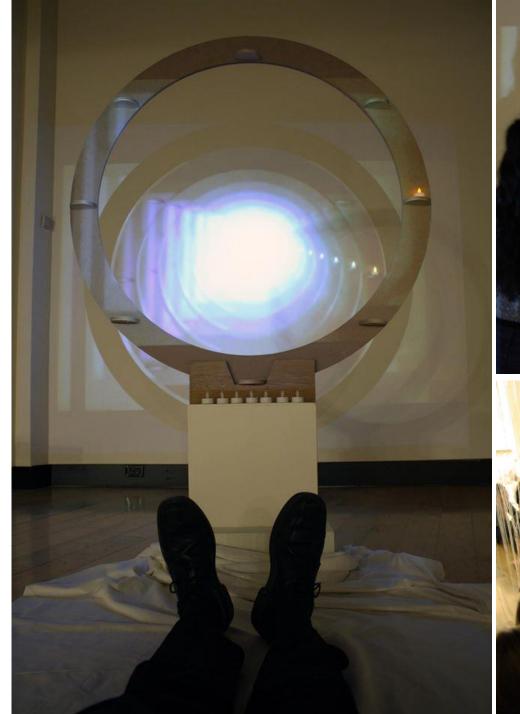


The Shanghai Plentarium is comprised of three major components: The Oculus, the Inverted Dome, and the Sphere. The Oculus serves as a representation of the sun's movement, casting a mobile shadow across the main plaza. The inverted Dome serves as a focal point above the central atrium, providing unique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



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.

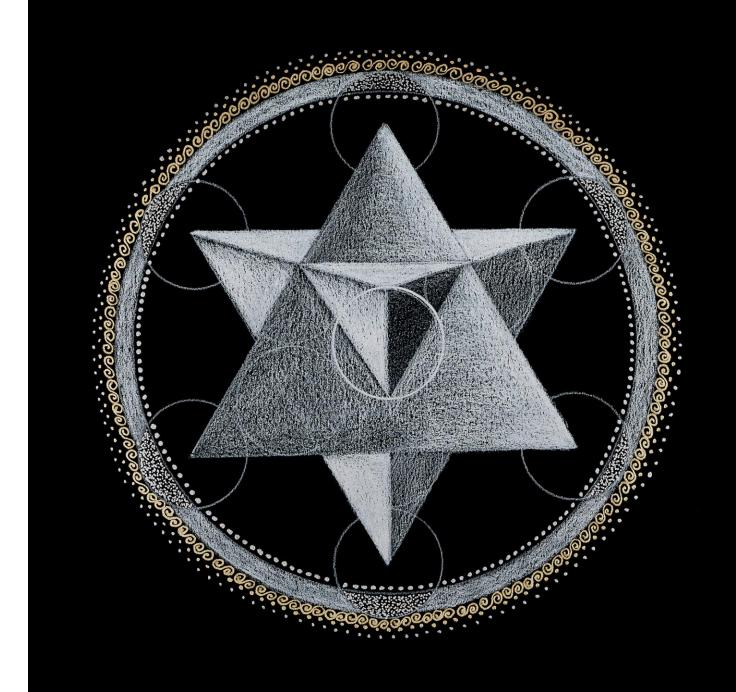
A concept of ancient Jewish Mysticism still in use today, the Merkabah is derived from *Book of Ezekiel*. The word is Hebrew for chariot, in the Bible referring to a throne-chariot of God. The word has three linguistic components.

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 threedimensional 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.





As mankind gears up for yet 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.



PROPOSAL

Title:

Horizons

Typology:

Observatory

Site:

48° 36' 48" N, 122° 24' 56" W,

Samish, WA

Project Footprint

113,267 sq. ft.

Site Footprint:

643,188 sq. ft

or 15 Acres

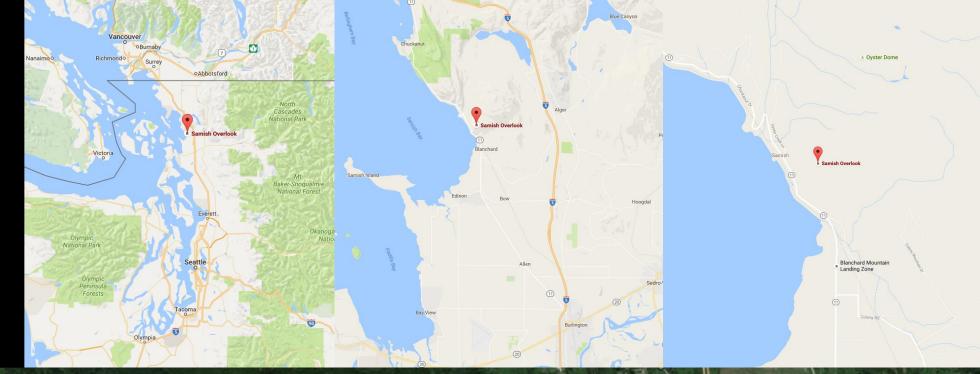
Since early on, mankind's inventions have drastically influenced culture, redefining standards and practices for the sake of progress. The 21st century is just beginning, with many major technological developments shaping, influencing, and inspiring coming generations. Such developments include the increasing knowledge of the cosmos, and 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 reflection.

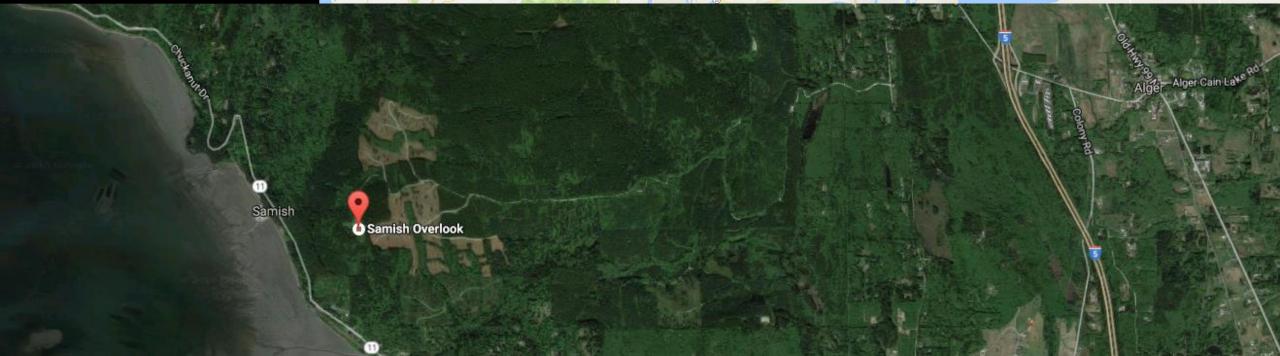




The territory surrounding the site is comprised of Washington's beautiful rainforest landscape at the southern edge of the Northern Cascades mountain range. Directly south lies Seattle in the distance, its northern suburban and rural districts just coming to an end. The West is the Pacific waterfront,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

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.











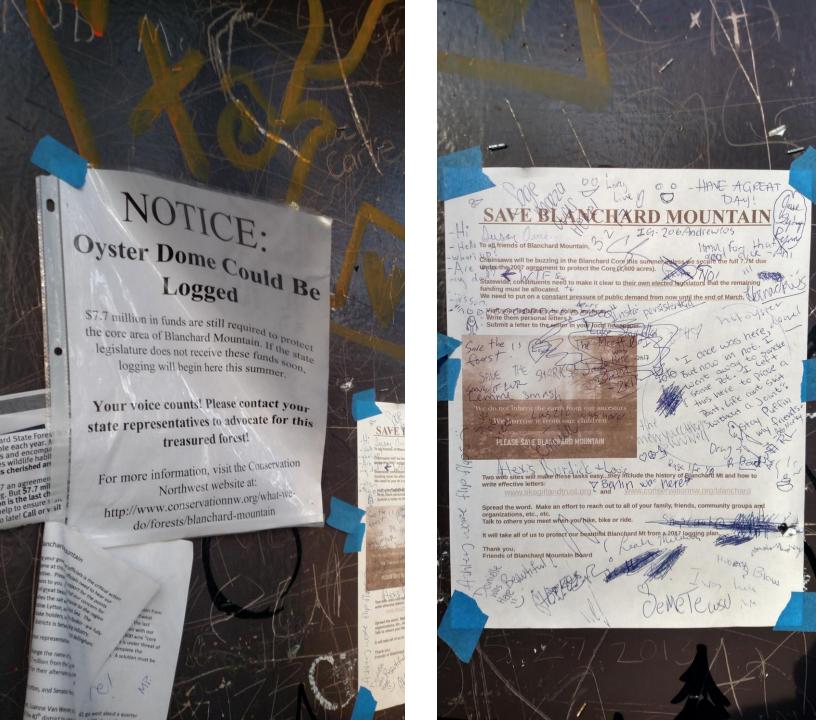


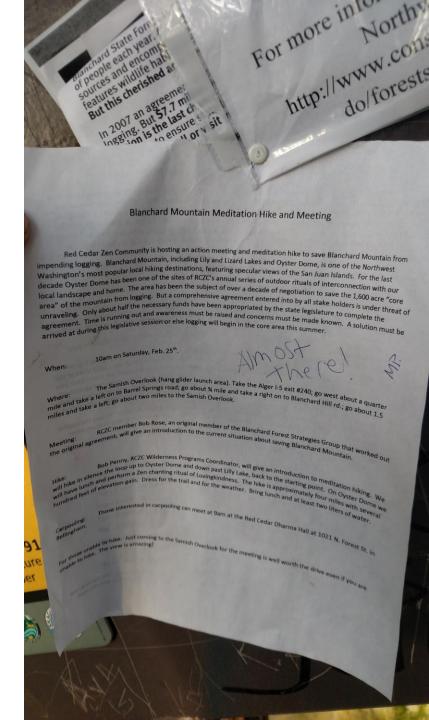


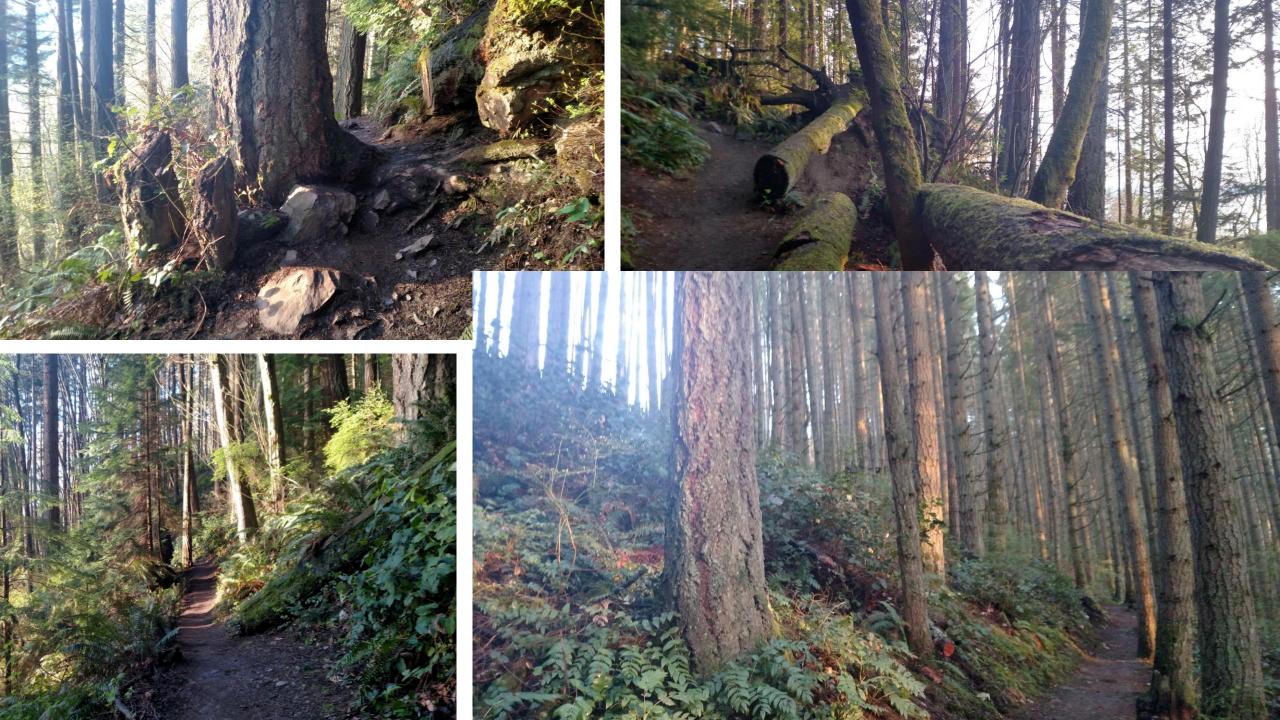




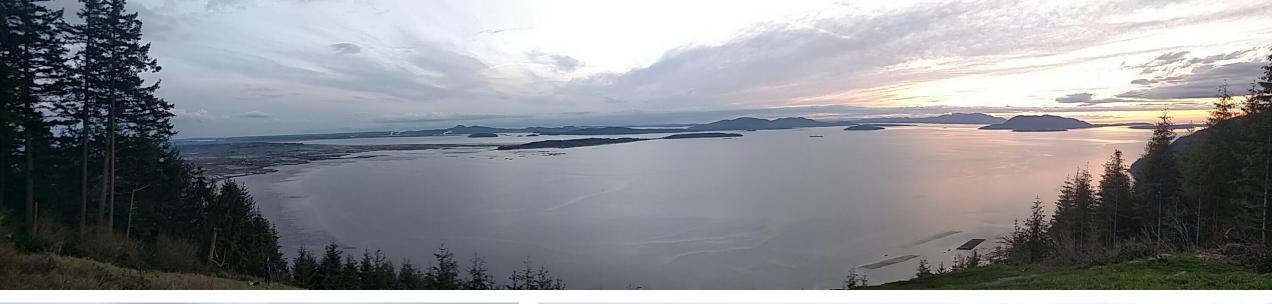




















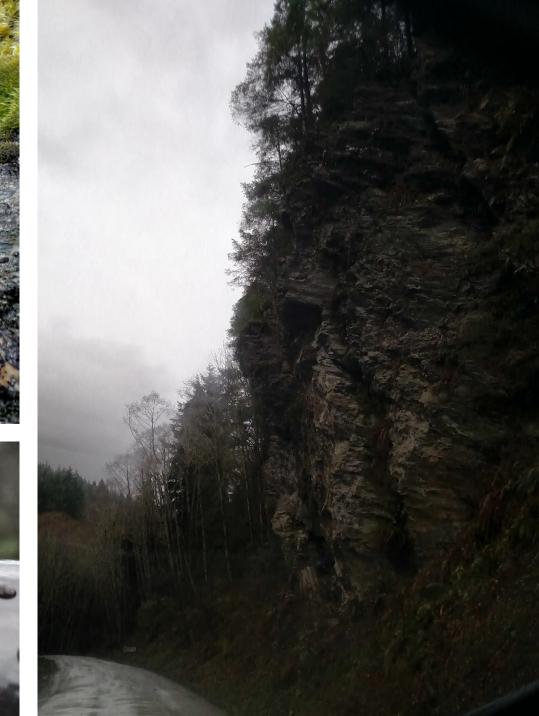


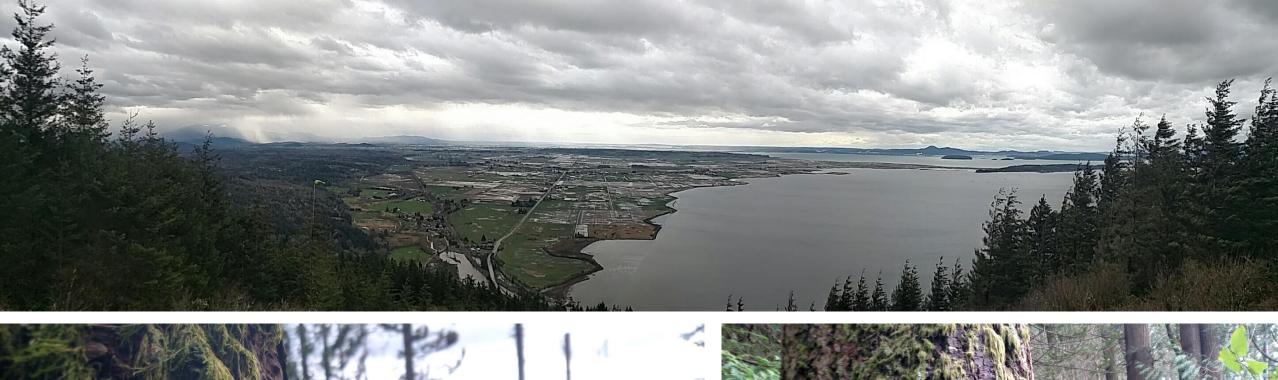




























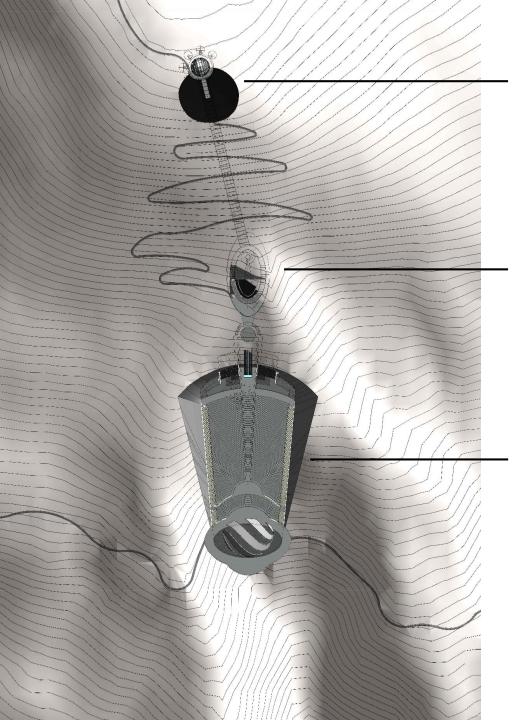
This site offers the perfect sense of spiritual enlightenment and pilgrimage that Horizons strives for far enough removed from civilization to reflect, but close enough to influence the neighboring cities and their population, sitting between the two mid-sized cities of Everett and Bellingham, and overlooking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

PROGRAM

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

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.

0 C U L U S

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.

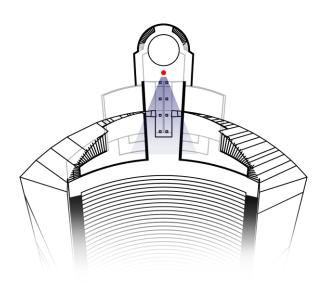




Opening directly to a viewing balcony on level with the stage, the Lower Tunnel is an homage to the NewGrange tomb in Ireland, oriented directly south to illuminate the passageway and the sparkling mineral, Stilpnomelane, exposed from the earthen ceiling carved from the mountain.



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.



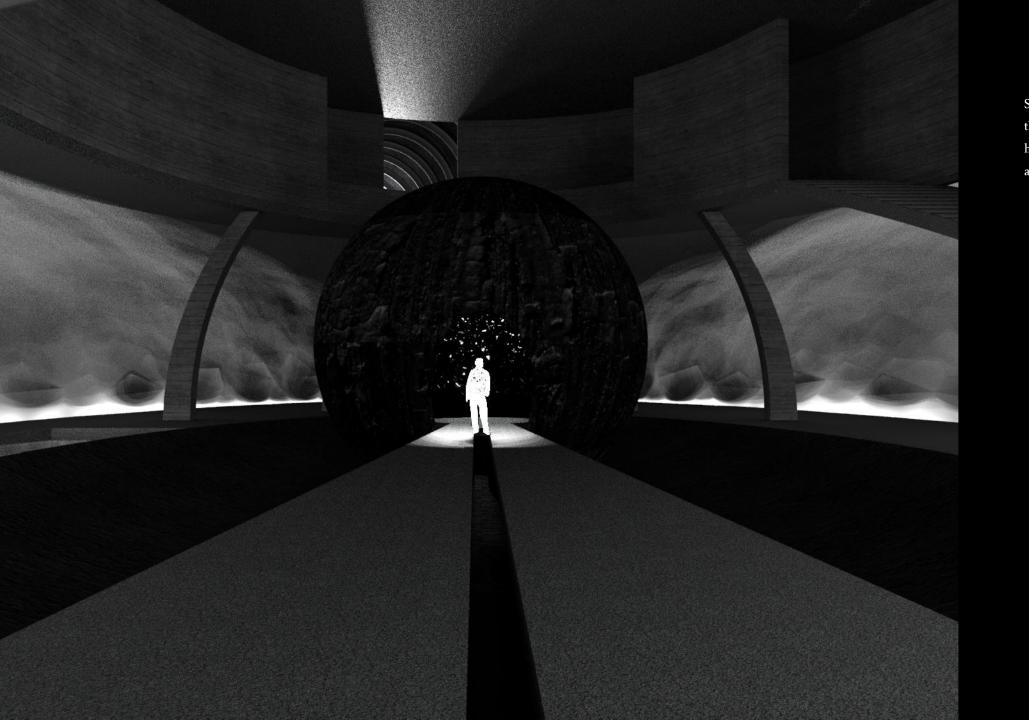




Here, two masses of earth are supported by eight pillars, and are split evenly up the center, able to be peered into by those passing beneath. An observer could witness the sparkling between the two hemispheres, symbolic of both the birthing of new stars and the firing neurons of the human mind.

THE SPLIT





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.

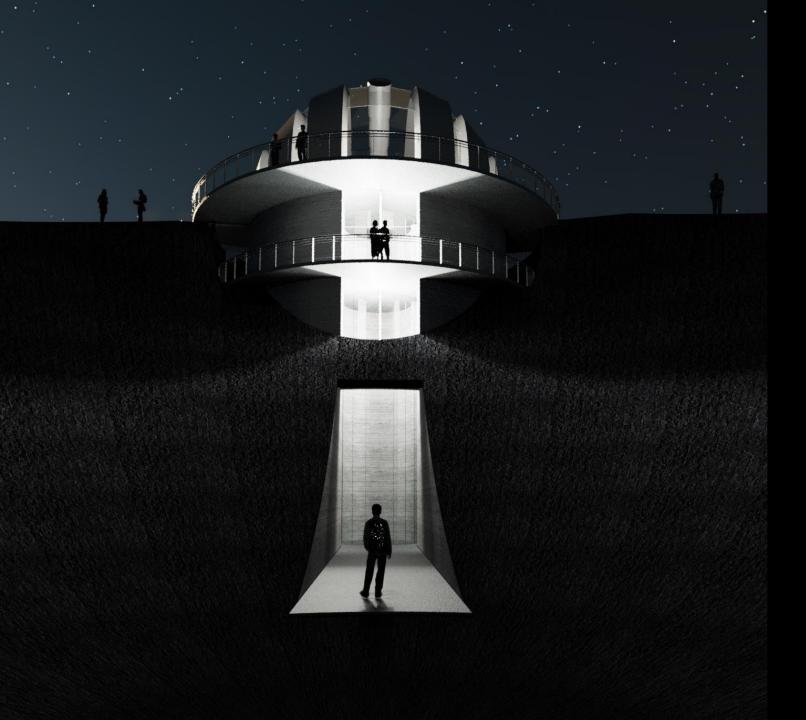
This particular example would utilize digital screens encased in Stilpnomelane to project the current cosmic arrangement through the mineral, shifting the surrounding constellations throughout the day.

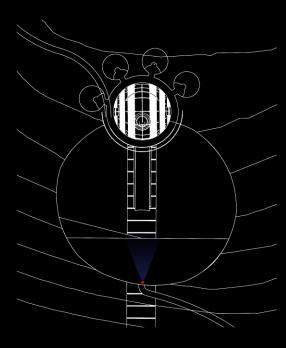


Linking the Oculus and the Observatory, the Upper Tunnel utilizes typical tunnel boring techniques, yet uses specifically placed lighting to illuminate the structural system, simply and effectively creating a 'light at the end of the tunnel' effect.









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.





LOOKING IN







L 0 0 K I N G 0 U T









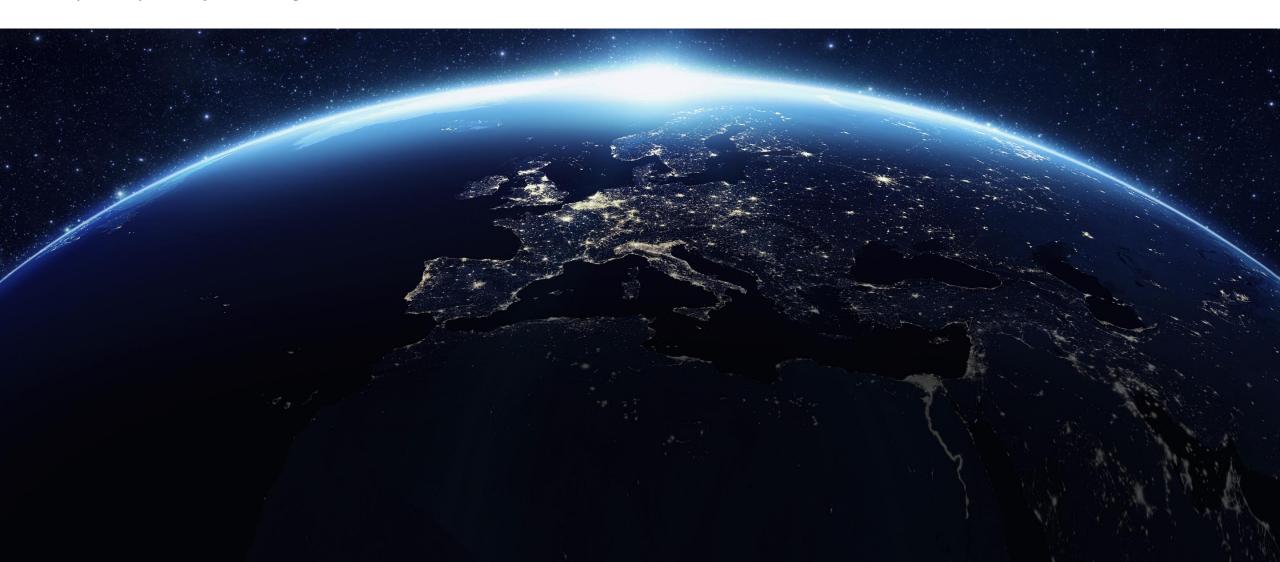


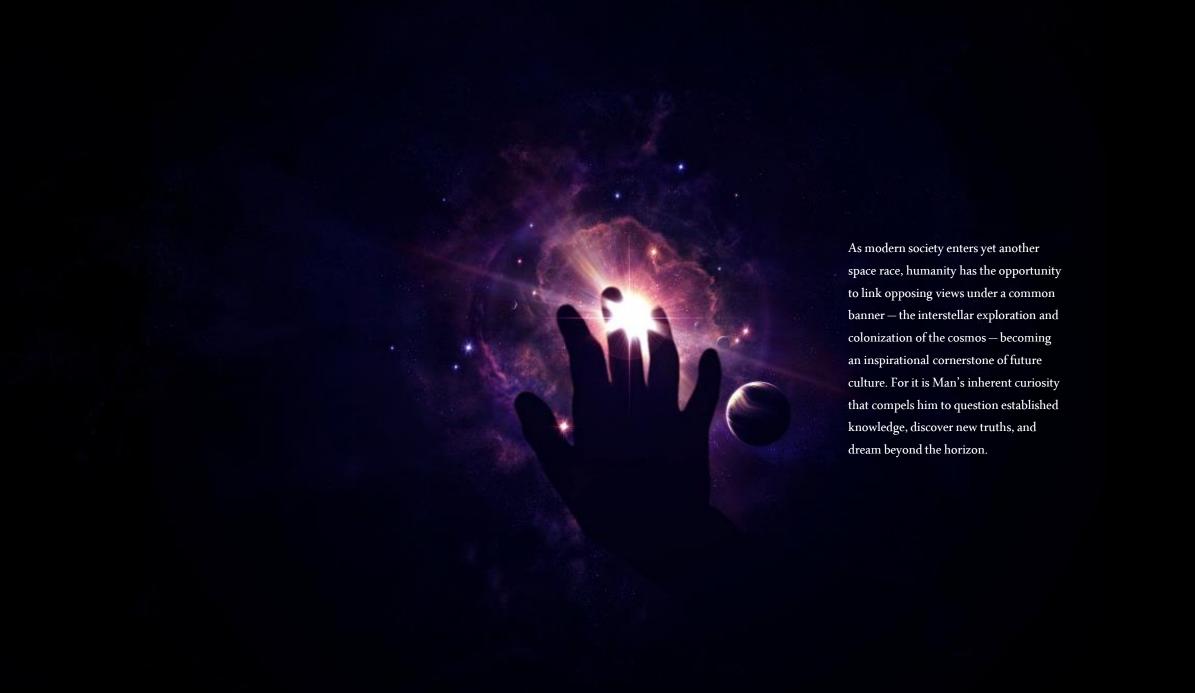






Through this act of pilgrimage, the stark contrasts between — earth and sky, dark and light, inwards and out — consistently reverse one's perspective, each emerging checkpoint revealing a bit more of the horizon. By doing so, the work attempts to reveal the relationship between mankind's not-so-ancient 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.







DREAM BEYOND THE HORIZON.

