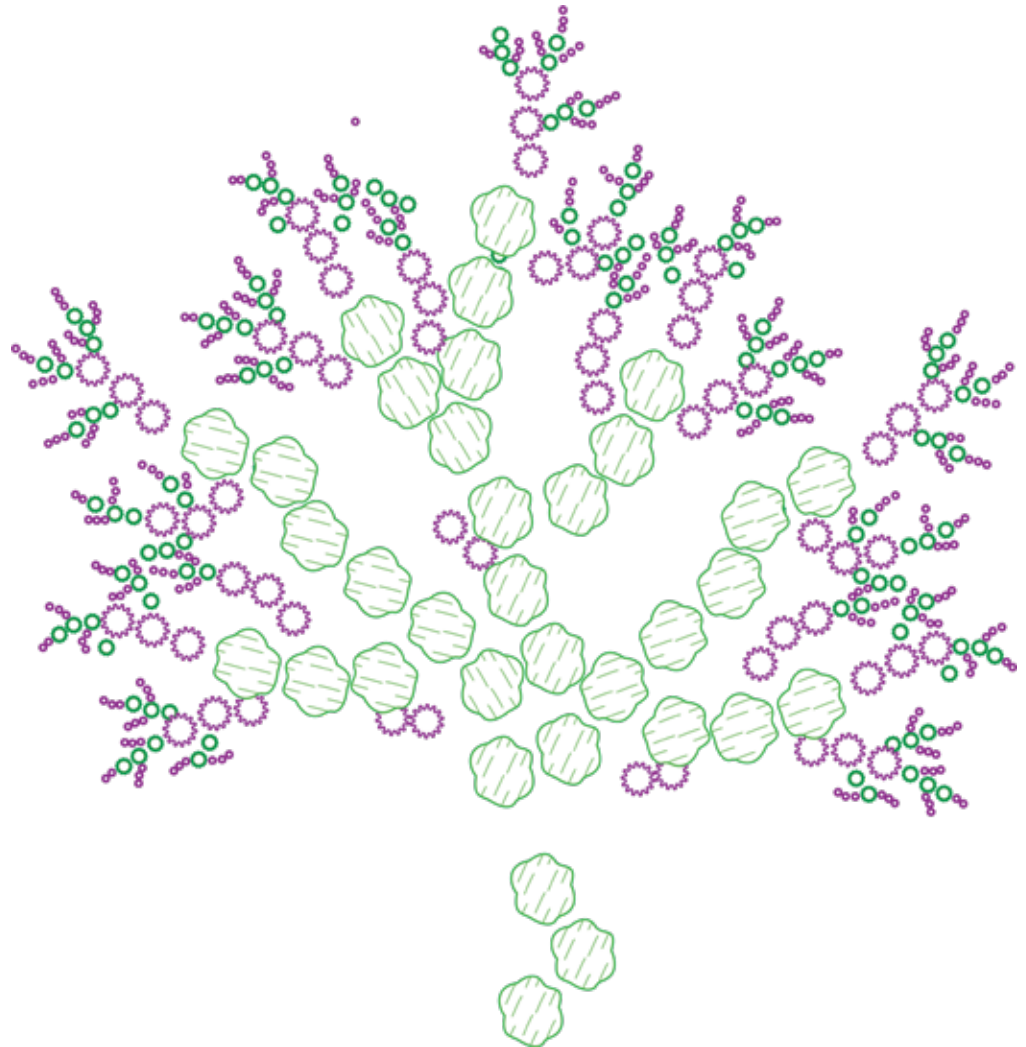


# Biophilic Design in Landscapes:

MYSTERY and INFINITY

“A park that continuously engages people”



Landon Cragun

# Biophilic Design in Landscapes:

MYSTERY and INFINITY

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Spring 2022

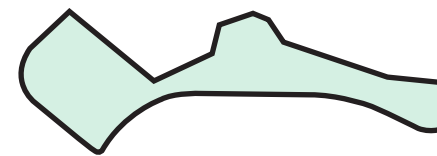
“A park that continuously engages people”

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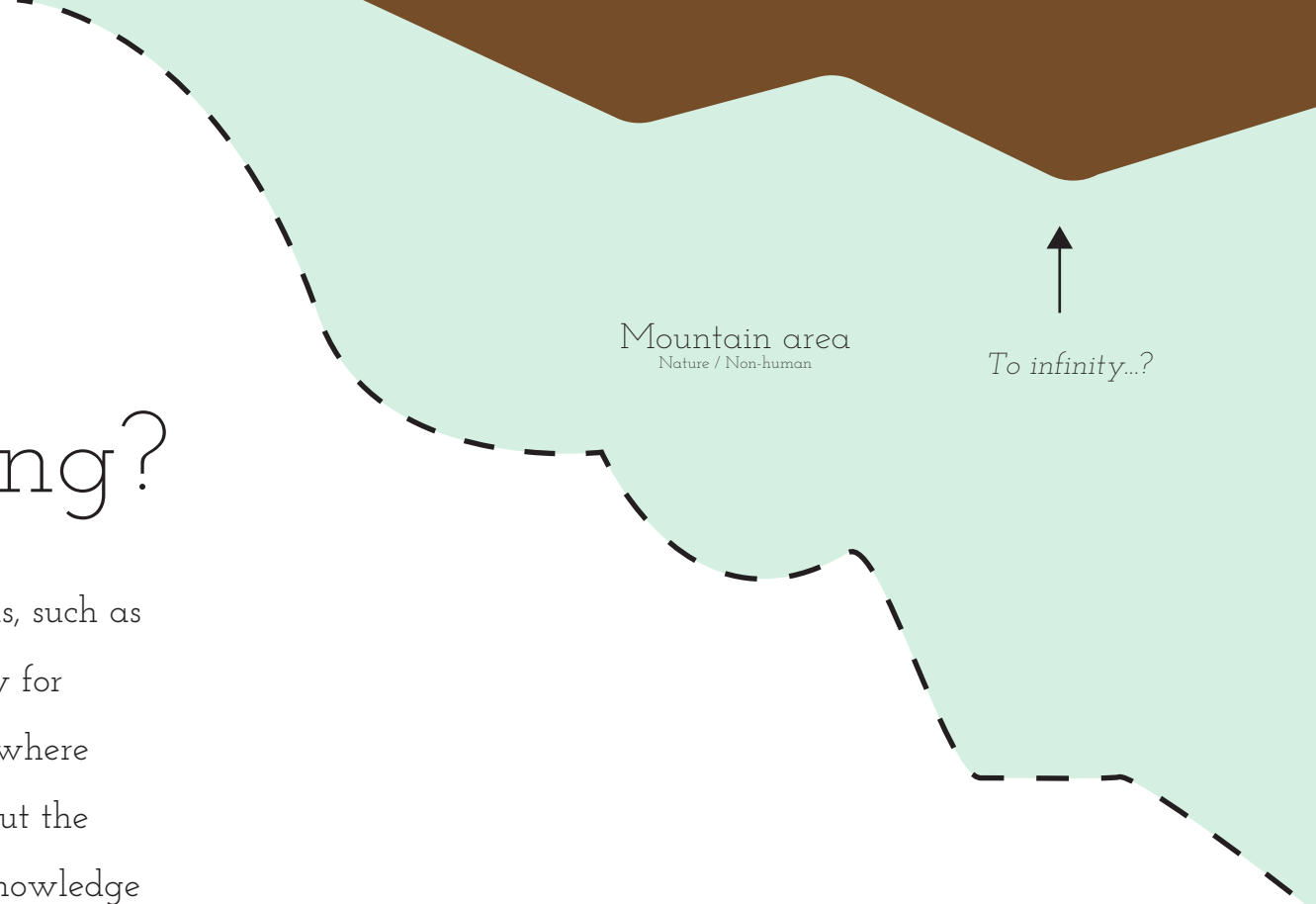
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# Infinite Learning?

Environments that are unaltered by humans, such as a mountainous area, provide an opportunity for endless exploration which provides a place where when in this environment, people learn about the space and themselves. They then use the knowledge as a means to understanding other parts of the world. People use nature in analogies to understand philosophy, mechanics, and self awareness as well as imitate the systems of nature in designs. In a mountainous area the mystery pattern has the space to draw people forward continuously and goes on and on forever beyond what any person is capable to explore. Can this infinite learning be replicated within a confined space like a park?



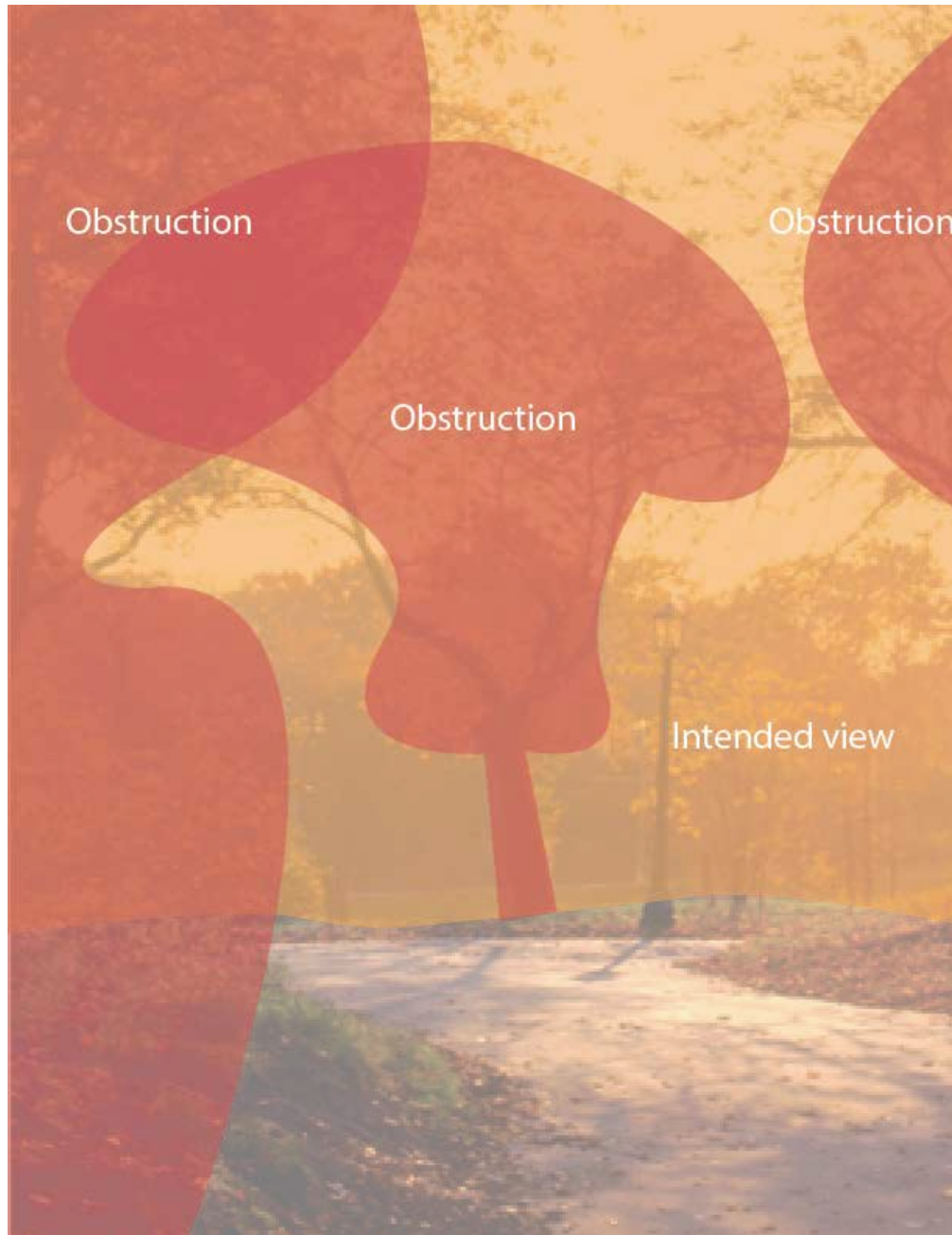
Donner Trail Park



Mountain area  
Nature / Non-human

To infinity...?

# Mystery



In the context of biophilic design, mystery is the suggestion of new information. Through partial obstruction of points of interest or curved paths, this type of environment engages people to explore and pulls people farther into the space.

## **Spatial Attributes of Mystery:**

Views are medium ( $\geq 20$  ft) to high ( $\geq 100$  ft) depth of field

At least one edge of the focal subject is obscured, preferably two edges

Auditory stimulation from an imperceptible source

Peek-a-boo windows that partially reveal

Curving edges

Winding paths

## **Common Features:**

Light and shadow

Sound or vibration

Scent

Activity or movement

Artwork or installation

Form and flow

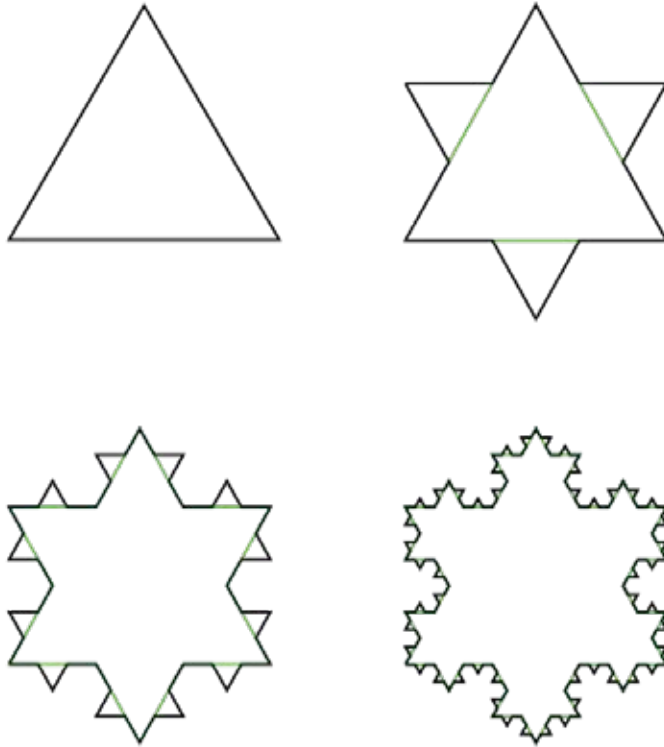
Translucent materials

# Mystery

“The benefits of mystery conditions are suggested to include improved preference for a space; heightened curiosity; increased interest in gaining more information and greater likelihood of encountering other biophilic conditions.”

<https://www.terrapinbrightgreen.com/reports/14-patterns/#mystery>

# Infinity: Fractals



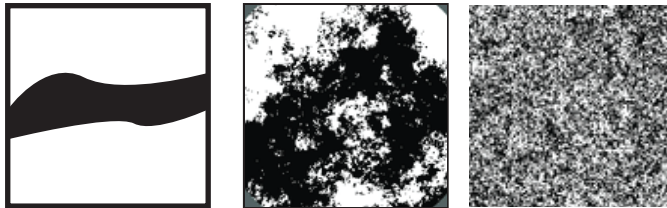
Fractals provide the opportunity for infinite perimeter within a finite area. Simple geometries or patterns are repeated at different scales and can endlessly continue. This is how the mystery pattern can develop infinitely in a park.

# Density

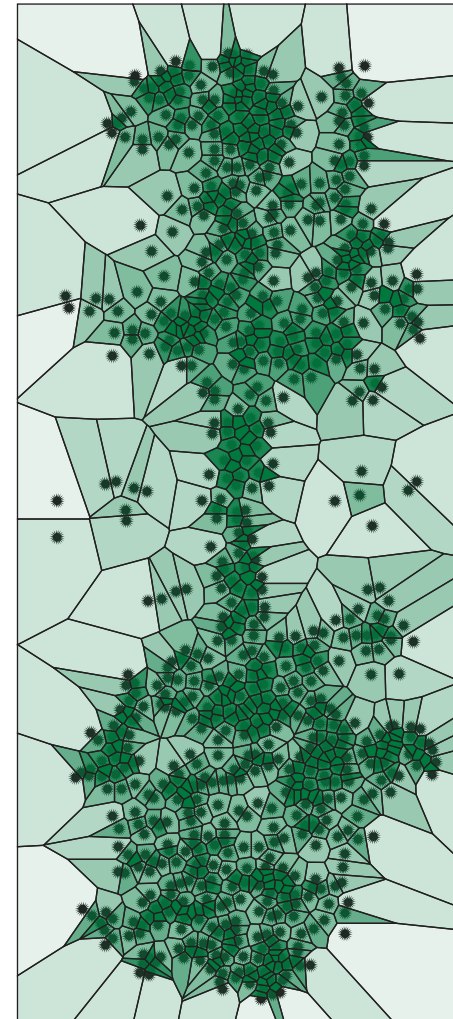
Killyon's Canyon  
Left Fork Trail

Emigration  
Canyon

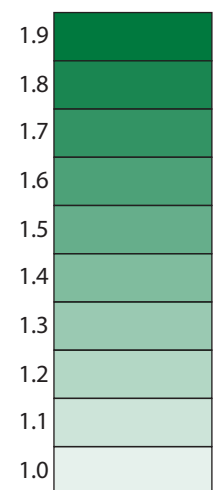
Fractal Density (D)



Fractal density is the level of intricacy that it has developed. This is very closely associated with simple density. The more going on in a spot, the more intricate details there are.



(D)



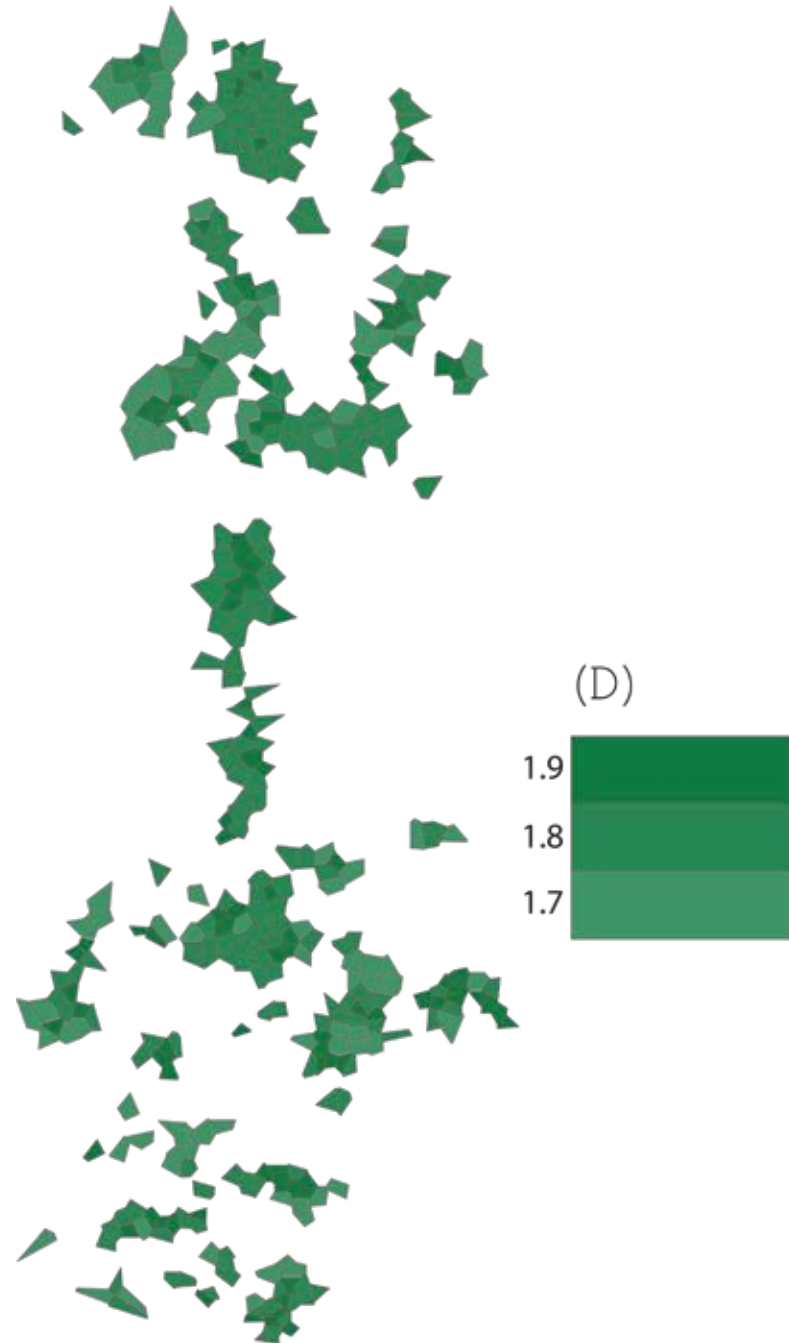


# Density

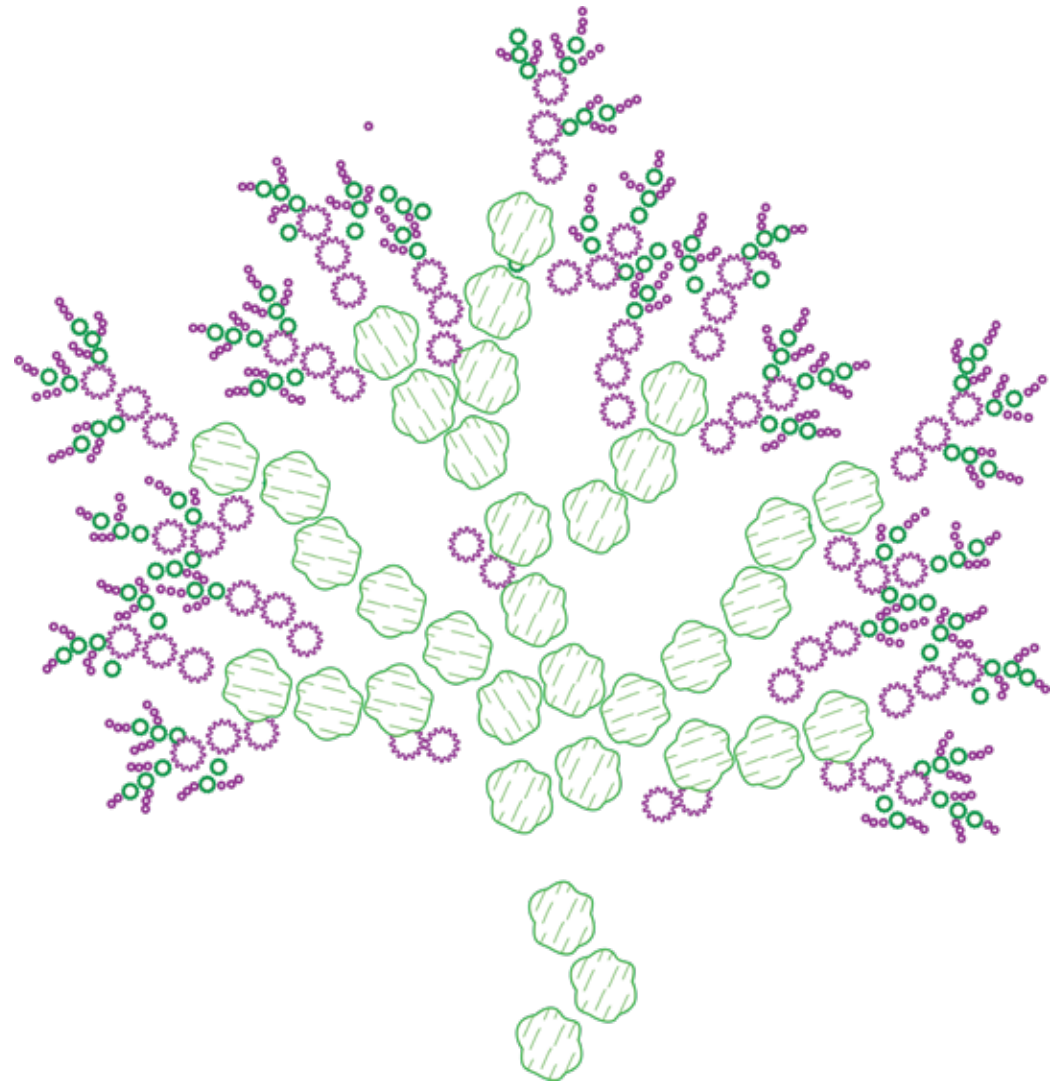
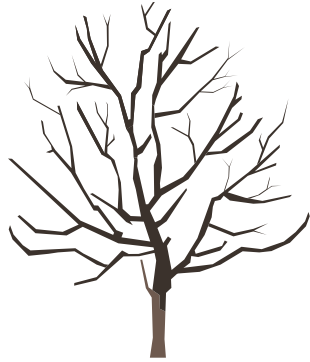
Killyon's Canyon  
Left Fork Trail

Emigration  
Canyon

Getting the right density to space ratio is important to developing the mystery pattern. By isolating the high dense areas from this nearby mountain area, the pattern could be replicated in the space of a park. Dense tree areas in the park would be spaced and grouped similarly to how they are grouped in this setting.



# Framework for planting layout: Tree fractals



Tree



Serviceberry



Large shrub



Small shrub

# Plant selection

Trees and shrubs native to this site were chosen based on their sizes and shapes that would work well together to create the mystery pattern as well as suggest an infinite progression of scale.



# Plant selection



Bigtooth Maple  
*Acer grandidentatum*  
25-40 ft. tall



Utah Serviceberry  
*Amelanchier utahensis*  
10-20 ft. tall



Fire Twig Dogwood  
*Cornus sericea*  
5-8 ft. tall

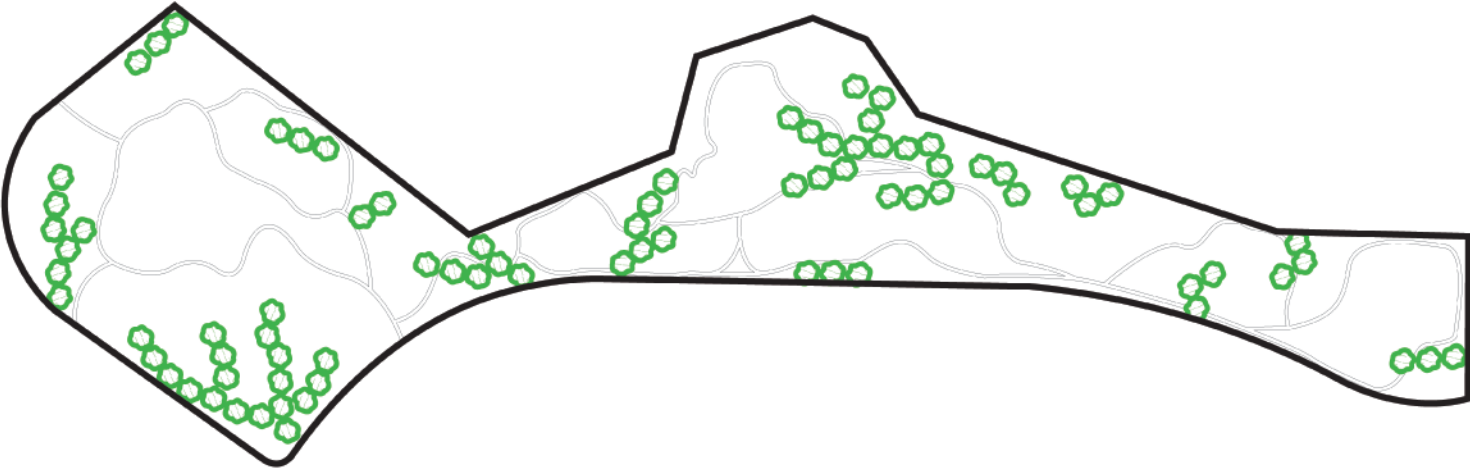


Crispleaf Buckwheat  
*Eriogonum corymbosum*  
2-4 ft. tall

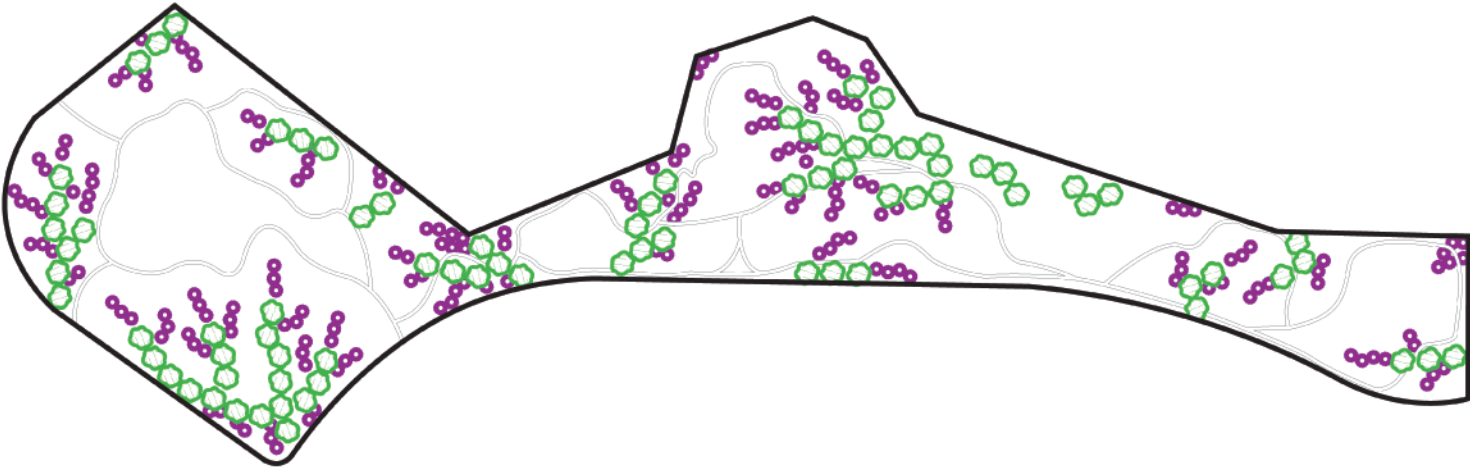
# Planting over the years.




Each year, the planting develops further to emphasize the fractal progression and provide new material suggesting more to explore.

Planting Year 1



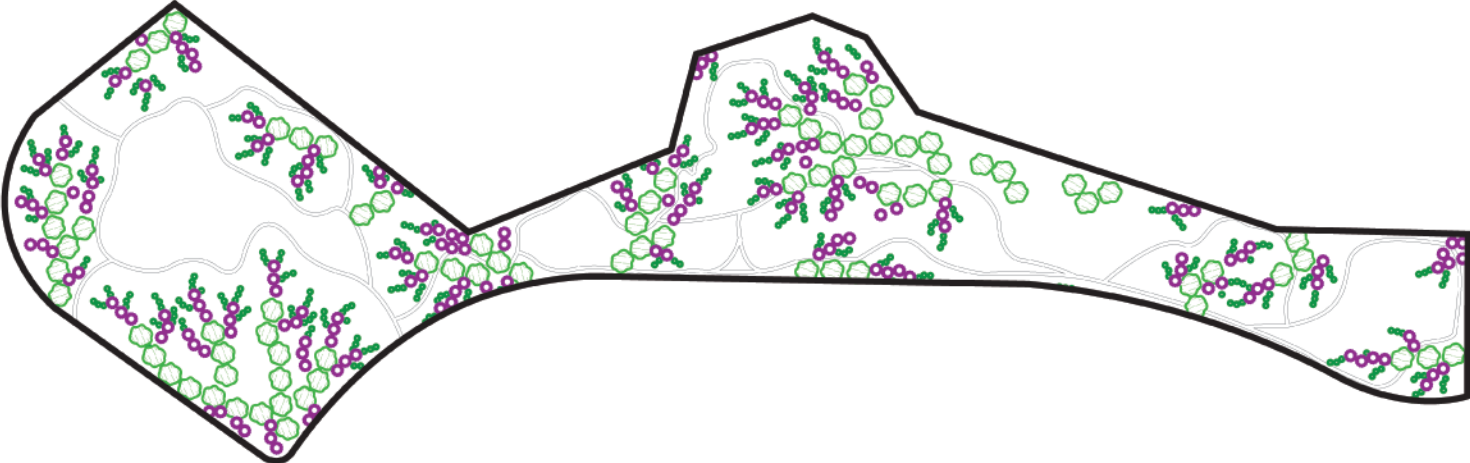
Planting Year 2



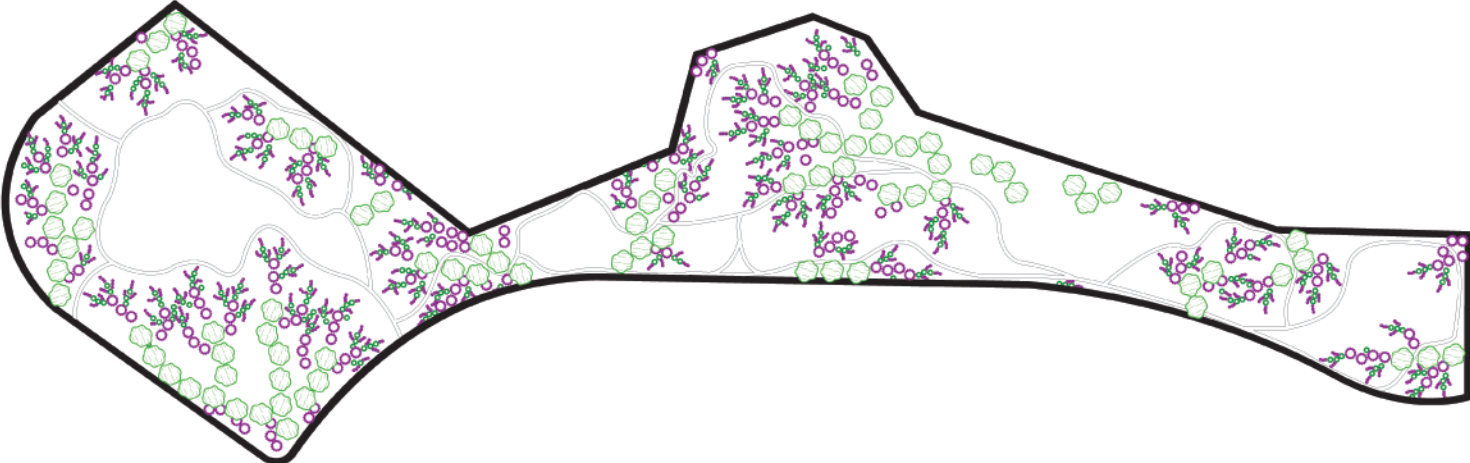
-  Tree
-  Serviceberry
-  Large shrub
-  Small shrub

# Planting over the years.

Planting Year 3



Planting Year 4



-  Tree
-  Serviceberry
-  Large shrub
-  Small shrub



-  Tree
-  Serviceberry
-  Large shrub
-  Small shrub





# Summary

This park design would create an environment where people would always have something new to learn. Whether it's something new that's added to the park as it develops through scale of the fractals over the years, wandering the paths that continue to draw them forward or they are simply lost in thought by the captivating, intricate patterns, people will be enticed to stay here, return here as well as have an increased desire to learn and explore nature and ponder on their own lives.

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