

ASSIGNMENT 01

Parametric Sketching

SKETCH 1

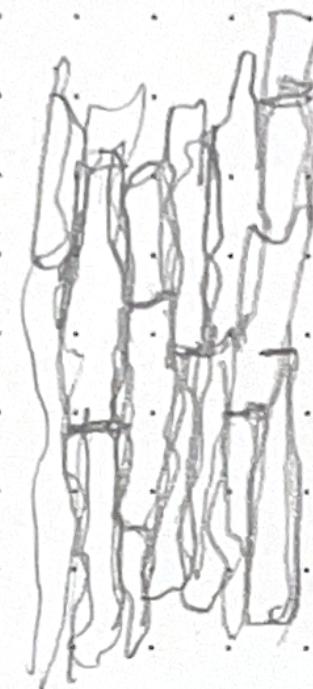
ELEMENT: OAK BARK

PARAMETRIC SYSTEMS: OFFSET GRID, DENSITY

5 Seconds



1 Minute



10 Minutes



Reflection

These sketches of oak tree bark depict how the pattern develops overtime as the bark expanding while the tree grows, creating gaps and segments of bark which come together to create a grid like system. As my time limit increased I was able to develop more of a system to drawing this pattern. The 5 second sketch used continuous, intersecting lines that continue down the length of the drawing vs the 10 min drawing was constructed from individual pieces of bark, each slightly different, but all relating. Under time constraints, the texture and depth of the drawing is lost, especially in the first. The segmentation of the pieces come across in all three studies. This is one of the most defining characteristics of tree bark, that it is made of segments of bark, pulled away from each other as the tree expands.

This exercised my ability to create a harmonious and repetitive scheme of unique pieces. In architecture this could be understood as trying to develop a pattern of modules without being too repetitive. It is much easier to array the same module over and over again rather than making each piece unique yet cohesive.

ASSIGNMENT 01

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SKETCH 2

ELEMENT: LAVENDER STALK

PARAMETRIC SYSTEMS: LINEAR + ROTATIONAL REPETITION

5 Seconds



1 Minute



10 Minutes



Reflection

For my second set of sketches I chose to draw a lavender stalk. This plant has linear repetition of the buds up the stalk, as well as rotational repetition around the stalk. The pattern also changes over time as the buds turn to blooms. My first sketch was of course the least detailed and only showed the linear repetition of the buds on either side of the stalk. The 1 minute drawing shows some rotational characteristics but it was still hard to show depth in only a minute. The 10 minute drawing does a better job of showing how the buds repeat all the way round the stalk and how some buds have developed into flowers, but it was still difficult to show detail and how the pattern of buds are arranged on a lavender stalk. The consistent shape of the buds was easier to demonstrate with more time while the linear stalk remained fundamentally the same across all three sketches.

In the development of a parametric architectural design, I could experiment with transforming a pattern rotationally and linearly at the same time.

ASSIGNMENT 01

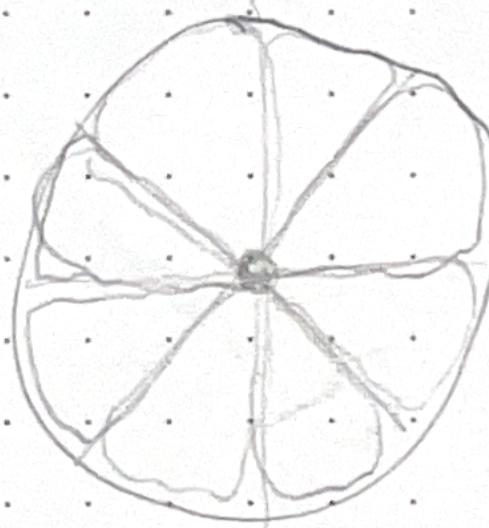
Parametric Sketching

SKETCH 3

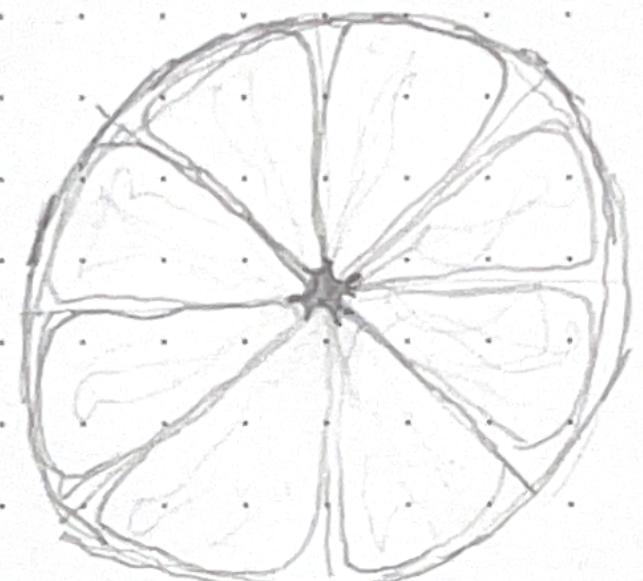
ELEMENT: LIME SLICE

PARAMETRIC SYSTEMS: RADIAL REPETITION

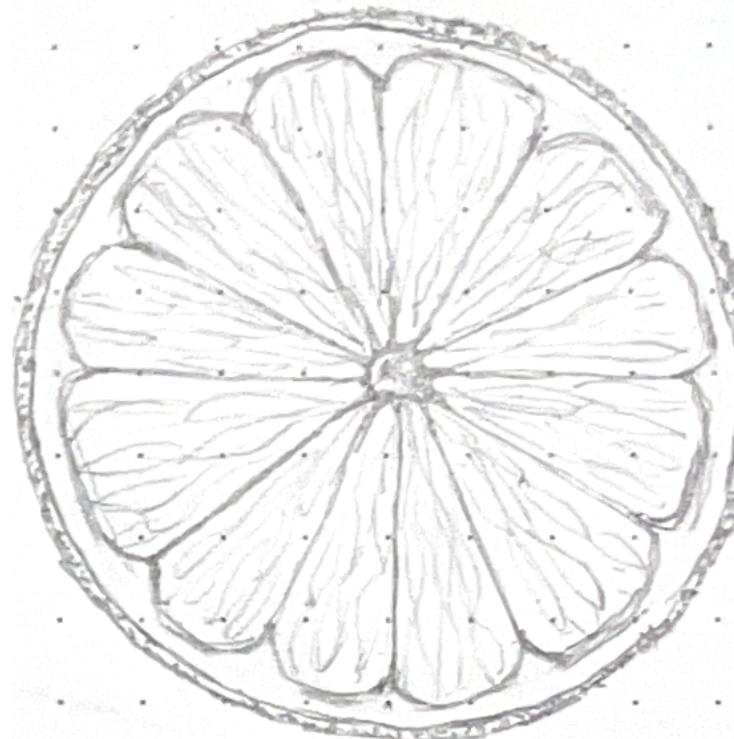
5 Seconds



1 Minute



10 Minutes



Reflection

A lime is all about rotational symmetry. The lime I used as a reference has 12 sections, all varying slightly in proportion. Within each wedge there is also a cluster of pods that create a flowing pattern. In the 5 second drawing I only was able to draw the perimeter and divide it into 8 sections (I went overtime to add the curved edges). The one minute drawing is more accurate, but the segments are still inaccurate, and the circular geometry took a hit. With a 10 min time limit I was able to accurately draw the number of segments as well as include the bonus pattern of the juice pods. This design is repetitive for the most part, but the proportion that each wedge takes up is slightly different. With even more time I think I could have captured the pattern of the pods even better.

This sketch made me think about how there can be patterns within patterns that build more complex systems. Parametric modeling can be used to form a building then a different model can be used to create a skin system, and another model can be used to design the site. There is no limit to the number of systems that can be present in a design, but making them cohesive might get difficult.