

Marianna Gonzalez | **Branching Out**

“Imagine you are walking through a forest. All around you are trees of different species, age, size and height. It looks pretty random, right? Wrong.” ([www.phys.org](http://www.phys.org))

The truth is, the architecture of branches has very specific rules that we can use to link the size, age, and shape of one single tree to all the trees in one forrest. Regardless of branches - and trees in general - being unique, they can be generated by very simple set of rules. This is the premise I used for project two.





When converting my drawings from Processing to a 3D model, I encountered some problems.

My first attempt at making this model was to take four consecutive drawings where my drawings went from completely clumped to completely dissolved. This ended up making a very clunky looking model.

My second attempt was to separate each of these four drawings; that is, each drawing would have a different number of levels. I then arranged those levels according to their density. Unfortunately, it still had the same clunky characteristic of the first iteration.

For my third iteration, I thought it would be best to go into each drawing and completely separate them. If you look at the drawings my processing produced, they are made up of circles. In the first and second iteration I took the outline of these groups of circles, but for this third iteration I took the outline of individual circles rather than the outline of groups of circles. Each drawing now had many, many circles and those circles were then arranged according to their density.

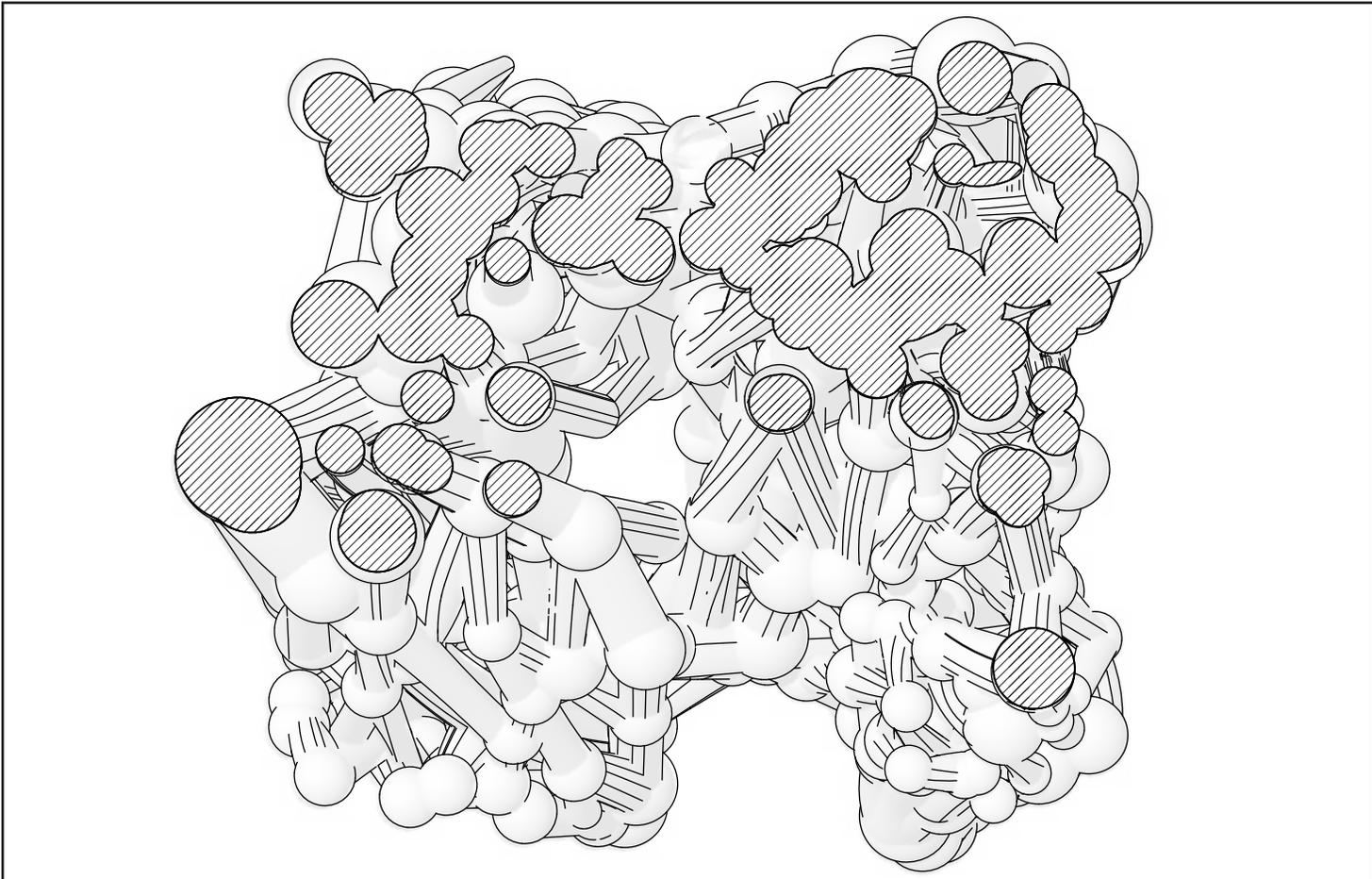


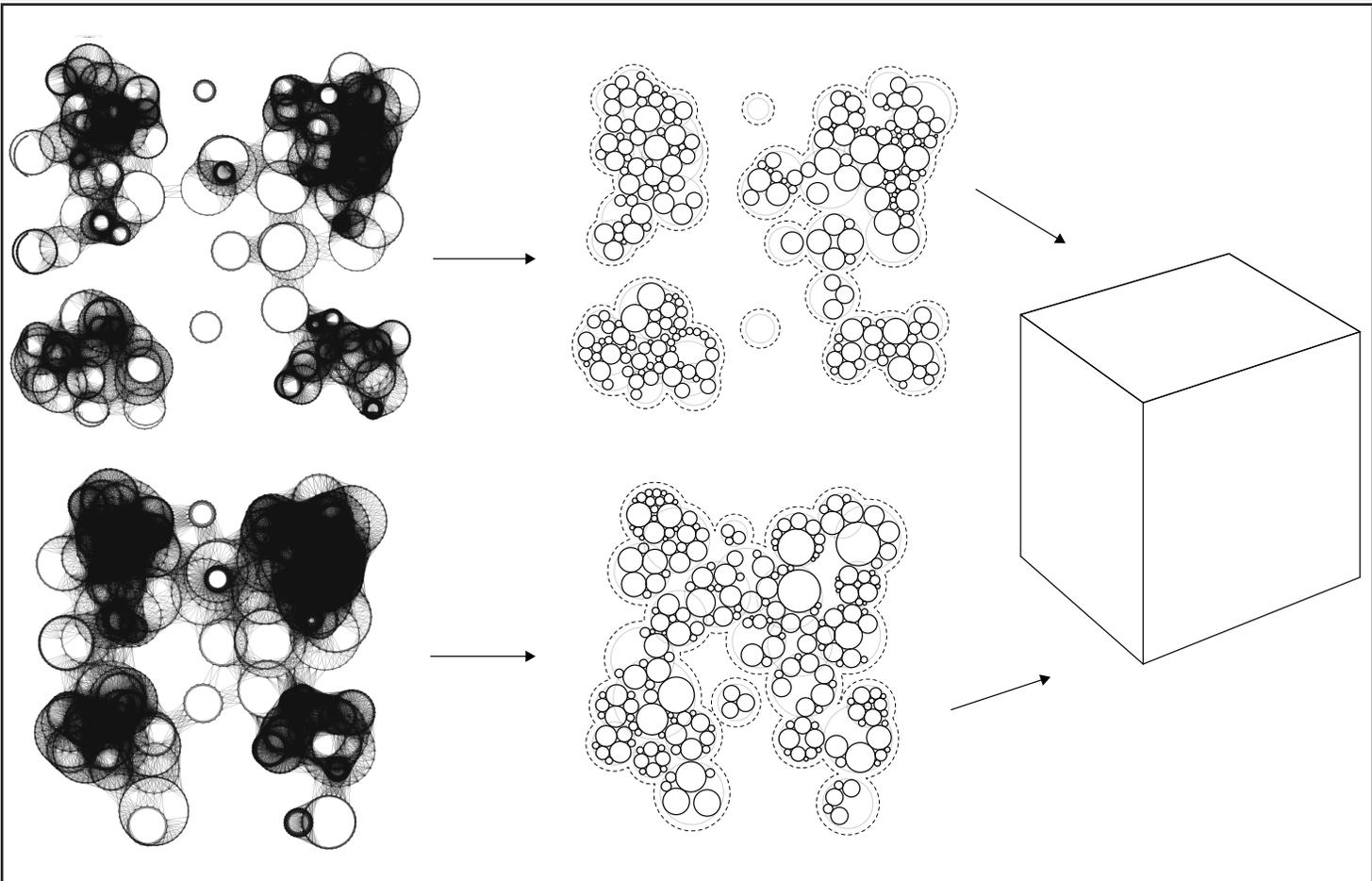
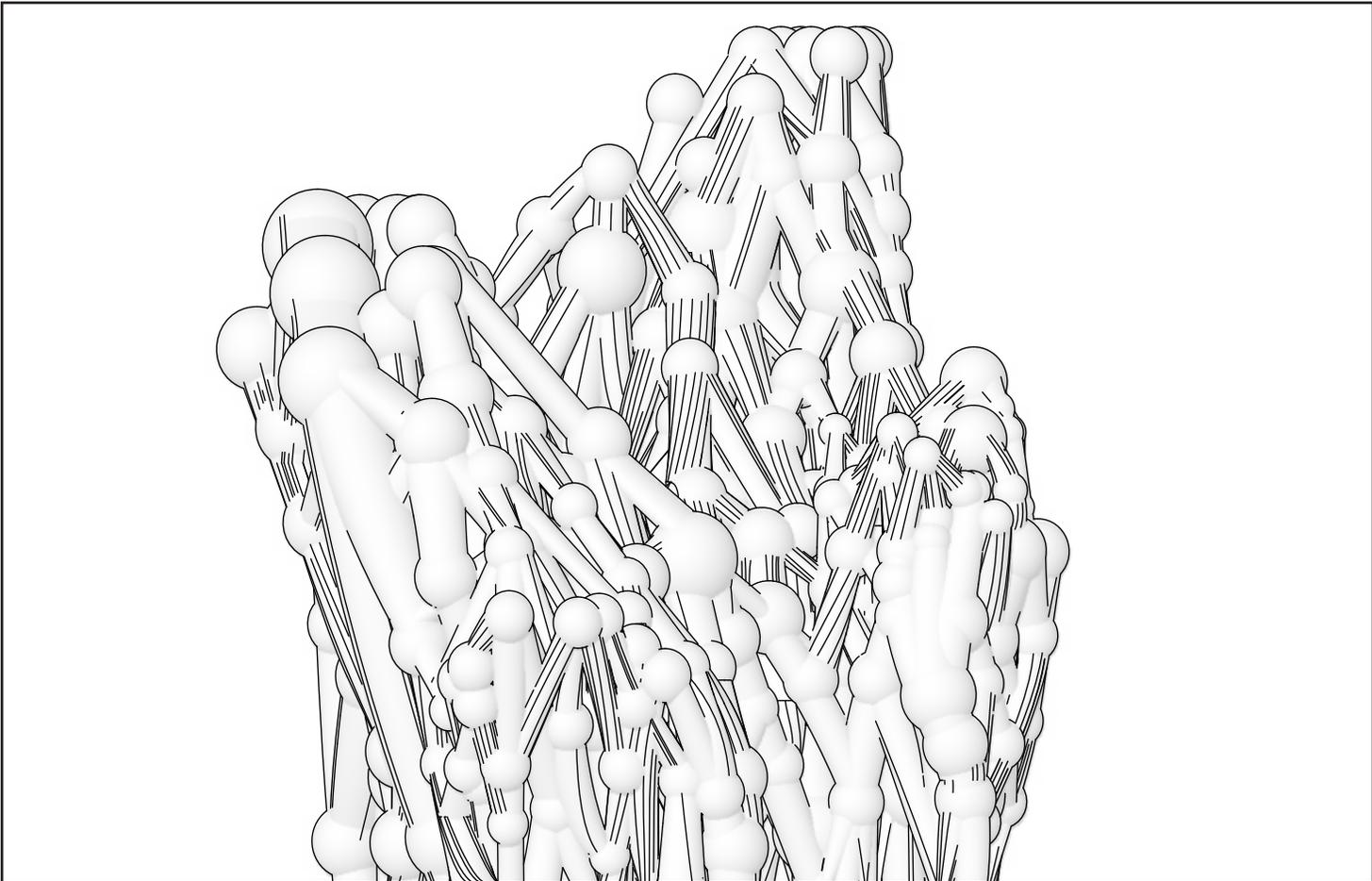
Finally, I realized attempting to use this logic on four drawing was too much work in too little time. By this time I was already behind, so instead I decided I would use only two drawings. I took the first drawing and placed it at the base and then placed the second drawing and placed it at the top (refer to logic diagrams). I then went in and arranged the circles by their density, where the highest circles would be the densest and the lowest would be the least dense.



In addition to this arrangement, I went back to Project 1 and questioned what the main concept was. In Processing, I created circles from a random generated number of points and these points connected to the points of other circles if and only if they were a certain distance. Following that same logic, I made these organic cylindrical figures connect when possible. In other words, if a cylinder was able to form, I would connect two cylinders. At times, the positioning of two cylinders did not allow for a connection because instead of a cylinder, a flat plane (with no thickness) would form. This was then the limiting factor for the connectivity within my model. In order to accentuate these connections, I added nodules between any and every connection. The size of these nodules was determined by the connections themselves - the nodules were made big enough to hide the connection.







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