

1135-F1-2580      **Susan Happersett\*** (fibonaccisusan@yahoo.com), 2 East Main Street, Roundhouse Unit #7,  
Beacon, NY 12508. *Altering Symmetries: Expanding on Cartesian Lace Drawings.*

I have created a new series of mathematically inspired drawings that I call “Cartesian Lace”. For these drawings I have developed a drawing process based on Set Theory using bijective (one point to one point) and non-bijective (one point to many points) mapping patterns. I used a set of 4 axes, intersecting at a central point, creating 90 degree and 45 degree angles. These figures possessed order-4 or order-8 rotational symmetry. To build more complex patterns, I changed the number of axes to 3 or 6, but continued to use the same mapping procedures. The symmetries changed to order 3, 6 or 12 rotational symmetries. I repeat these new forms as building blocks within a grid formation. These new tilings give me the opportunity to further explore wall paper patterns. As I continue to experiment with scale and grid structures, I have been able to present more complicated geometric networks. This new work began as a vehicle to explore the visualization of networks such as neural connections and the diagrams for technology systems, as well as lace making. Expanding my artistic practice by hand drawing these tessellations, I have broadened the scope of my work. (Received September 26, 2017)