Text to accompany “Squares, Rectangles, and Implied Octagons”, an image featuring color and symmetry

This image was created in the Rectangle World of the Gargoyle program, version Beta.

ELEMENTS OF SYMMETRY AND CHOICES OF COLOR

This image has four axes of flip symmetry: north-south, east-west, northeast-southwest, and northwest-southeast. It also employs rotational symmetry; if rotated 180°, the image will look the same. The background is black. Blue and red eight-point “stars” repeat fractally in five locations on the canvas. Grey squares with dark outlines cover the points where star meets another, except for the center star. These squares repeat and become smaller as they move toward the center.

REFLECTION ON THOUGHT PROCESS OF CREATION

I began with a black canvas. I then created a red rectangle, connected at each ends with a blue rectangle in order to form a line of three. Then I created these lines on top of each other at eight different rotations in order to form a starlike figure. I created an identical but smaller starlike figure on top of that one, and repeated that process several times, making the star appear to have a fractal design. I created four more of these fractal star figures: one north of the original, one south, one east, one west. This would have been satisfactory for the image, but I was displeased as to how each of the outer stars only joined with the center star and none of the others. To remedy this, I created a gray square with a dark outline at the four points where one outer square could connect to another. Finally, for no real reason beyond keeping the image interesting, I created more of the squares converging in lines towards the center of the canvas, getting progressively smaller as they went.

IDENTIFYING A THEME AND PRODUCING VARIATIONS

Change the color of the gray squares and/or their outlines. Change the number, size, and/or formation of the star figures. Change the thickness of the lines that make up the star figures. Change the color of the rectangles that make up the star figures. Rotate the whole “cross of squares” so that it appears as if it were an upright cross of diamond shapes.