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John Shier and **Douglas Dunham*** (ddunham@d.umn.edu), Department of Computer Science
320 HH, 1114 Kirby Drive, Duluth, MN 55812-3036. *New Metamorphosis Patterns*. Preliminary
report.

M.C. Escher utilized transformations in a number of his prints, notably in his *Metamorphosis I*, *II*, and *III*. We show some new Escher-like transition patterns and some new transition patterns in different directions than Escher explored.

Among the Escher-like patterns, we show simple a simple squares-to-hexagons transition, a transition from a simple black-white tessellation to a pattern of colored butterflies, and “Night into Day”, our version of Escher’s “Day and Night” with black-white symmetry. We also show a transition from the center outward starting with an equilateral triangle tessellation to one of interlocked birds.

Most of our non-Escher patterns start with a simple regular tessellation on the left which is gradually transformed to a non-regular or even random pattern on the right.

All of our transitions are accomplished by using continuous random transition functions that are applied to the motifs to make changes in position, shape, color, and interior decoration. These functions start at “identity” values which are then morphed to non-regular final values. (Received September 26, 2017)