1135-F1-235   **Gary R Greenfield*** (`ggreenfi@richmond.edu`), Department of Math & Comp. Sci., University of Richmond, Richmond, VA 23173. *Harnessing chaos for generative art and an unusual packing problem.* Preliminary report.

Label the edges of an $m \times n$ grid with zeros and ones. Treat each row of edges and each column of edges as inputs to some chaotic one-dimensional cellular automaton. After a large number of iterations evaluate, starting counterclockwise from the top, the edges of each grid cell to assign cells hexadecimal digits. Assign colors to digits and generate artworks by invoking a hill-climbing algorithm to maximize the number of occurrences of two distinguished digits. This gives rise to packing problems such as: How many times can you successively place a Y and a B in an $m \times n$ grid such that the cells to the left and above each Y are always blank? (Received August 14, 2017)