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University Esplanade, Kent State University, Kent, OH 44242. *Latin Squares from Zoomorphic
Images and Orthomorphisms of Groups*. Preliminary report.

The artist Peter Raedschelders has produced an example of a Latin Square of size 8×8 in which the 8 symbols used are the 4 rotations and 4 reflections of a tile obtained by deforming the edges of a square. The tiles are zoomorphic images and have no individual symmetry, but fit together snugly in the style of M. C. Escher to produce the Latin Square. The artist asks whether the tiles can be colored using 8 colors so that the resulting coloration also produces a Latin Square that is orthogonal to the original. We use an orthomorphism of the dihedral group D_8 to find this orthogonal mate, and discuss the problem of finding orthomorphisms of groups in general. (Received September 24, 2018)