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Shown below is a way to embed the six order-4 Latin squares that have orthogonal Latin mates in a set of 35 arrays so that orthogonality in the set of arrays corresponds to skewness in the set of 35 lines of PG(3,2). Each array yields a 3-set of diagrams that show the lines separating complementary 2-subsets of \{0,1,2,3\}; each diagram is the symmetric difference of the other two. The 3-sets of diagrams correspond to the lines of PG(3,2). Two arrays are orthogonal iff their 3-sets of diagrams are disjoint, i.e. iff the corresponding lines of PG(3,2) are skew.

This is a new way of viewing orthogonality of Latin squares, quite different from their relationship to projective planes.

PROBLEM: To what extent can this result be generalized?