the latter inscribed into the former. The six sides, *ijk, ilm, ikl, imj, ijl, ikm*, of every quadrangle pass, respectively, through the six vertices *jk, lm, kl, jm, jl, km*, of the quadrilateral.

The same Desargues configuration reveals six pairs of mutually inscribed pentagons. The five vertices *ij, jk, kl, lm, mi*, of one lie on the five sides *jli, lik, ikm, kmj, mjl* of the other.

By placing the vertices of a pair of pentagons appropriately we get a self-inscribed decagon and by the use of 24 permutations of A, B, C, D (where $A, B, C, D =$ $= i, j, k, l, m$), we get 24 selfinscribed decagons as given below.

Writing 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 for *ij, jl, jk, km, kl, il, lm, jm, im, ik*, respectively we get the decagons

(1). 0 1 2 3 4 5 6 7 8 9,	(2). 0 7 2 9 4 1 6 3 8 5,
(3). 0 1 4 5 8 9 2 3 6 7,	(4). 0 9 4 3 8 7 2 1 6 5,
(5). 0 2 1 6 4 9 3 7 8 5,	(6). 0 7 1 5 4 2 3 6 8 9,
(7). 0 2 4 9 8 5 1 6 3 7,	(8). 0 5 4 6 8 7 1 2 3 9,
(9). 0 2 7 6 3 9 4 1 5 8,	(10). 0 1 7 8 3 2 4 6 5 9,
(11). 0 2 3 9 5 8 7 6 4 1,	(12). 0 8 3 6 5 1 7 2 4 9,
(13). 0 5 9 3 4 1 6 8 7 2.	(14). 0 8 9 2 4 5 6 3 7 1,
(15). 0 5 4 1 7 2 9 3 6 8,	(16). 0 2 4 3 7 8 9 5 6 1,
(17). 0 7 2 4 3 8 6 1 5 9,	(18). 0 1 2 9 3 7 6 4 5 8,
(19). 0 7 3 8 5 9 2 4 6 1,	(20). 0 9 3 4 5 1 2 7 6 8,
(21). 0 7 1 4 6 8 3 2 9 5,	(22). 0 2 1 5 6 7 3 4 9 8,
(23). 0 7 6 8 9 5 1 4 3 2,	(24). 0 5 6 4 9 2 1 7 3 8.

The group G of symmetries of the Desargues figure which leaves both the set P of 10 points and the set L of 10 lines invariant is the group of permutations of the 10 points, which preserve the set L of lines. If we also allow the reciprocity which interchanges P and L, we obtain the group G'. It has been shown by Coxeter (1950) that G has order 120 while G' has order 240. It is clear from this paper that G contains a subgroup of order 24, the symmetric group of degree four on A, B, C, D, (where $A, B, C, D = i, j, k, l, m$).

There are several ways in which G can be calculated. G is transitive over 10 points, 10 lines, the 24 self-inscribed decagons.

The stabilizers G_P (of a point), G_1 (of a line), G_d (of a self-inscribed decagon) have orders 12, 12, and 5 respectively. Hence G has order $10 \times 12 = 10 \times 12 = 24 \times$ $\times 5 = 120$.

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Reference

Coxeter, H. S. M., Self-dual configurations and graphs, Bulletin of the American Mathematical Society, *56*, 413–455; (1950).

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