$\cdots$, ϑ_5 respectively. Then $x_i = \vartheta_i^2 (i = 0, 1, \cdots, 4)$ determine a spread S' of degree 12 having 61 quadruple points. As in the preceding example, to each of the half-periods α, β, γ corresponds a two-spread (a two-dimensional locus) of degree 4.

Since two functions ϑ_i vanish simultaneously for 12 half-periods, three of which are α, β, γ, it follows that the flats $ax_i + bx_j = 0$ intersect S' in 9 of its nodes. If we require it to pass through a tenth not lying in either x_i or x_j, there are 29 points to choose from, and hence we determine $29.15 = 435$ surfaces of degree 12, each having 10 quadruple points.

Every flat of the form $ax_i + bx_j + cx_k = 0$ contains 3 nodes of S' and can be made to pass through two other nodes by properly choosing the constants. There are thus determined $20.45 = 900$ surfaces of degree 12 which have 5 quadruple points.

The coördinate flats $x_i = 0$ contain doubly covered sextics. Consider, for example, the sextic $\vartheta_0 = 0$, which we denote by T'. It has 25 nodes, 5 cubic curves $\vartheta_i = 0 (i = 1, \cdots, 5)$ lying in singular tangent planes, 18 quartic (genus zero), 30 quintic, and 10 sextic twisted curves.

CORNELL UNIVERSITY,
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ASSOCIATED CONFIGURATIONS OF THE CAYLEY-VERONESE CLASS.

BY DR W. B. CARVER.

(Read before the American Mathematical Society, September 3, 1906.)

In this paper, S_n will be used to denote a flat space of n dimensions; and the notation $C^{\nu}_{n,r}$ and the words "chiastic," "copoint," etc., will be used in the sense defined in the author's earlier paper * on these configurations.

Given five planes in S_3, we can, in general, construct the polar point P of any one of the five with respect to the 4-point determined by the other four planes. The five points so constructed, when joined by lines and planes, give a complete 5-point chi-

* "On the Cayley-Veronese class of configurations." *Transactions Amer. Math. Society*, vol. 6, pp. 534–545 (October, 1905).