catalectic, while the knot is such that the self-apolar members coincide. The knot then has one form representing both of its possible self-apolar forms and also its three coincident catalectic forms.

This shows that the previous statement is true but that it is a special case of the general situation, derived in this paper, for all types of the curve with an oscnode.

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THE TRANSFORMATIONS GENERATED BY AN INFINITESIMAL PROJECTIVE TRANSFORMATION IN FUNCTION SPACE*

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The problem considered in this note is to determine the one-parameter group of finite transformations generated by an infinitesimal projective transformation in the space of continuous functions. It will be shown that this one-parameter group consists entirely of projective transformations of function-space in the sense defined by L. L. Dines.† While the problem is completely solved in the paper just cited (p. 57), it will be seen that the result may be obtained directly without the use of the auxiliary formulas developed by Dines in the first part of his paper.

Let the given infinitesimal projective transformation be defined by the integro-differential equation

$$(1)\qquad \frac{\partial\phi'(x;t)}{\partial t} = \lambda(x) + \mu(x)\phi'(x;t) + \int_0^1 \nu(x,y)\phi'(y;t)dy - \phi'(x;t)\int_0^1 \rho(y)\phi'(y;t)dy$$

with the boundary condition $\phi'(x;0)=\phi(x)$. It is required to

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† *Projective transformations in function space*, Transactions of this Society, vol. 20 (1914), p. 45.