grated by Sturm's method as three distinct problems, each being obtained by a change of variables. Although the Legendrian notation is practically adhered to, the respective substitutions are equivalent to

$$(27) \qquad 1 - k^2 \sin^2 \phi = x^2, \qquad \cos^2 \phi = x^2, \qquad \sin^2 \phi = x^2.$$

The respective values of $f(x)$ are equivalent to

$$(28) \quad (1 - x^2)(x^2 - k'^2), \ (1 - x^2)(k'^2 + k^2x^2), \ (1 - x^2)(1 - k^2x^2).$$

Schröter's values of F are deduced for each of the three cases independently, by expressing the sufficient conditions for the vanishing of coefficients in his equation corresponding to (12) above. His results are obtainable at once by using his respective values of $f(x)$ from (28) in (25) and (24), and this affords a concrete illustration of the theorem which these two equations express.

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A PROPERTY OF A SPECIAL LINEAR SUBSTITUTION.

BY PROFESSOR F. R. SHARPE.

LET ξ_i denote homogeneous line coordinates * which satisfy the quadratic identity

$$(1) \qquad \Sigma \xi_i^2 = 0.$$

The condition that two lines ξ, ξ' intersect is

$$(2) \qquad \Sigma \xi_i \xi'_i = 0.$$

The equation of a linear complex is of the form

$$(3) \qquad \Sigma a_i \xi_i = 0.$$

It is clear from the above equations that, when

$$(4) \qquad \Sigma a_i^2 = 0,$$

the lines of (3) all intersect the line a; (3) is then called a special complex.

* Jessop: Treatise on the line complex, Arts 9, 15–20.