THEOREM IV. *If one pair of curves*

$$v = \alpha_1 u + \alpha_2 u^2 + \cdots,$$

$$v = \beta_1 u + \beta_2 u^2 + \cdots,$$

is to be equivalent, under the equilong group, to a second pair of curves

$$V = A_1 U + A_2 U^2 + \cdots,$$

$$V = B_1 U + B_2 U^2 + \cdots,$$

the necessary and sufficient condition is the equality of a single absolute invariant J, that is,

$$J(\alpha, \beta) = J(A, B).$$

If the order of contact of the curves of each pair (this is obviously an arithmetic invariant) is $h - 1$, the invariant J is of order $2h - 1$.

If $h = 1$ (curves not touching), J is the tangential distance δ. If $h = 2$ (simple contact), J is a combination of the radii of curvature and their rates of variation, as given above.

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THE INVERSION OF AN ANALYTIC FUNCTION.

BY DR. SAMUEL BEATTY.

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THE demonstration of the existence of the inverse of an analytic function is made to depend in the Weierstrass theory upon the power series representation of the function and in the Cauchy theory upon the Jacobian of the real and imaginary parts of the function with reference to the real and imaginary parts of the variable. The proof presented in the following pages finds its source in the Goursat conception of an analytic function and is related as to method to the theory of sets of points.

Suppose the function $w = f(z)$ exists and has a finite derivative at each point of a simply connected domain D.