Real curve	$u' = .22314$
X	$u = .5596$
$\cosh 2u$	1.6945
$-\cosh 2u'$	-1.1012
$-\cosh(1.2528 + u)$	-3.1441
$+\cosh(1.5316)$	2.4209
	$-.1299$
Y	
$\sinh 2u$	1.3679
$-\sinh 2u$	$-.4612$
$-\sinh(1.2528 + u)$	-2.9808
$\sinh(1.53157)$	2.2047
	$.1306$

Imaginary curve	$u' = .5$	
X'	$u - .4$	
	or	
$\sinh(3.6931 + u + u')$	$+\sinh 1.5931$	2.3591
$-\sinh(1.2523 + u')$	$-\sinh 1.7528$	2.7983
		$-.4392$
Y'	or	
$\cosh(.6931 + u + u')$	$\cosh 1.5931$	2.5622
$-\cosh(1.2528 + u)$	$-\cosh 1.7528$	-2.9711
		$-.4089$

LIE'S GEOMETRY OF CONTACT TRANSFORMATIONS.*

SOPHUS LIE.—*Geometrie der Berührungstransformationen.* Dargestellt von SOPHUS LIE und GEORG SCHEFFERS. Erster Band. Mit Figuren im Text. Leipzig, Druck und Verlag von B. G. Teubner. 1896. 8vo. Pp. xi+693.

Lie was asked in conversation once what constitute the necessary and sufficient characteristics of a mathematician. He replied forthwith: "Phantasie, Energie, Selbstvertrauen,

* Lie uses in the German *Berührungstransformation;* his French pupils translate it *transformation de contact*, Forsyth translates it *tangential transformation*, and Klein *contact transformation.* The latter English translation is retained here as a more precise designation, since by such a transformation not only is the property of tangency, but also in general the order of contact preserved.