

$$\frac{hg' - gh'}{f^2 + g^2 + h^2} = s_{11}f + s_{12}g + s_{13}h,$$

$$\frac{fh' - hf'}{f^2 + g^2 + h^2} = s_{21}f + s_{22}g + s_{23}h,$$

$$\frac{gf' - fg'}{f^2 + g^2 + h^2} = s_{31}f + s_{32}g + s_{33}h,$$

in which  $f, g, h$  are functions of  $u$  and  $f', g', h'$  their derivatives, while  $s_{11}, \dots, s_{33}$  are constants. These equations also give the Scherk's surfaces, which admit an infinite number of generations in the way described; moreover the ordinary helicoidal surfaces appear as special cases of this result.

12. It is well known that the conditions of Euler, Legendre, Jacobi, and Weierstrass are not sufficient for a strong extremum of the integral

$$J = \int_{x_0}^{x_1} F(x, y, y') dx.$$

In Professor Bolza's paper a fifth necessary condition is established. The paper will be published in the current volume of the *Transactions*.

F. N. COLE,  
*Secretary.*

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THE FIFTY-FIFTH ANNUAL MEETING OF THE  
AMERICAN ASSOCIATION FOR THE AD-  
VANCEMENT OF SCIENCE.

THE American Association for the Advancement of Science held its fifty-fifth annual meeting in New Orleans, the sessions continuing from December 28, 1905, to January 3, 1906.

The president of the meeting was Professor Calvin M. Woodward of St. Louis. Dr. L. O. Howard, Washington, D. C., is the permanent secretary of the Association. The enrollment was small, reaching a total of only 233, and the programmes of many of the sections were unusually brief, but the meeting as a whole can by no means be considered unsuccessful. It is believed by many that, though the attendance may always be small, one of the most important purposes of the organization — the stimu-