It is clear that the number of these groups increases very rapidly with the increase of n. *E. g.*, when $n=1000$, there are $(166+1)(166+2)-2=28{,}054$ of order 6.

This article may be regarded as a continuation of "*The substitution groups whose order is four*," *Philosophical Magazine*, vol. 41 (1896), pp. 431–437.

PARIS, *May*, 1896.

NOTE ON THE SPECIAL LINEAR HOMOGENEOUS GROUP.

BY PROFESSOR HENRY TABER.

On page 232 of the BULLETIN are given the conditions necessary and sufficient in order that a transformation of the special linear homogeneous group in n variables may be generated by the repetition of an infinitesimal transformation of this group. As a corollary of these conditions it ollows that a transformation of this group can be generated fthus if the multiplicities of the several roots of its characteristic equation have no common factor, or if the roots of its characteristic equation are all equal to $+1$. But one or other of these conditions is satisfied if n is an odd prime. Therefore, if n is an odd prime, every transformation of the special linear homogeneous group in n variables can be generated by the repetition of an infinitesimal transformation of this group, that is, belongs to a continuous one-term sub-group containing the identical transformation.

On the other hand, if $n=2$ or is composite, it follows from the conditions given on page 232 that the special linear homogeneous group in n variables contains an assemblage of transformations no one of which can be generated by the repetition of an infinitesimal transformation of this group. Nevertheless, by the repetition of an infinitesimal transformation of this group we may approximate as nearly as we please to any transformation of this assemblage. Thus corresponding to any transformation A of the special linear homogeneous group that cannot be generated by the repetition of an infinitesimal transformation of this group can always be found a transformation A_ρ of this group, whose coefficients are rational functions of a parameter ρ, such that for all but a finite number of the values of ρ, A_ρ can be generated by the repetition of an infinitesimal transformation of this group, and by taking ρ sufficiently