All intersector sequences of order three will be closed if the invariant

$$p^2(p_{21}^2\alpha^2 + p_{12}^2\beta^2) + 2p_{12}^3p_{21}^3\alpha^2\beta^2$$

vanishes. This can happen either if $p=0$, $\alpha=0$ (or $\beta=0$), or $\alpha=0$, $\beta=0$. In the first case one branch of the flecnode curve of R_{yz} is plane, $(\alpha=0)$, and $R_{\psi\phi}$ degenerates into the tangents of a plane curve. In the second case both branches of the flecnode curve of R_{yz} are plane and $R_{\psi\phi}$ degenerates into a straight line.

It is obvious that in the preceding developments the order of the lines l_{yz}, $l_{\psi\phi}$, $l_{\eta\theta}$ can be reversed without in any way affecting results. The analysis would be based upon a system of first-order equations of the same type as (4), (5) and obtainable from (4), (5) by simple processes.

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NOTE ON THE REDUCIBILITY OF ALGEBRAS WITHOUT A FINITE BASE*

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It is the purpose of this note to discuss the reducibility of linear associative algebras which are not assumed to possess a finite base. J. H. M. Wedderburn,† in seeking to generalize certain theorems on the structure of an algebra, has considered algebras in which restrictions are placed upon the character of the idempotent elements. The summations involved in his study need not be finite. This seems to be one natural line of attack.

J. W. Young‡ has approached the subject from the point of view of the groups involved. His definition of a finite algebra is, however, unsatisfactory, not being sufficiently restrictive.

I have studied infinite algebras in connection with the results that can be obtained by a use of the "axiom of choice" and the theory of transfinite ordinals. This note, however, does not

* Presented to the Society, December 31, 1928.

† J. H. M. Wedderburn, *Algebras which do not possess a finite base*, Transactions of this Society, vol. 26 (1924), pp. 395–426.

‡ J. W. Young, *A new formulation for general algebras*, Annals of Mathematics, vol. 29 (1927), pp. 47–60. See particularly p. 60.