This can be proved by combining the two formulas in Elliott's paper in the *Messenger of Mathematics*, volume 7 (1878), page 151 and in Minkowski's paper in the *Mathematische Annalen*, volume 57 (1903), page 463.

But any similar formula for the relative volume of two convex ovoid bodies cannot be established.

March, 1918.

CONCERNING THE DEFINITION OF A SIMPLE CONTINUOUS ARC.

BY DR. GEORGE H. HALLETT, JR.

(Read before the American Mathematical Society October 26, 1918.)

IN a paper entitled "Curves in non-metrical analysis situs with an application in the calculus of variations," *American Journal of Mathematics*, volume 33 (1911), pages 285–326, N. J. Lennes gives the following definition of a simple continuous arc.*

"A continuous simple arc connecting two points A and B, $A \neq B$, is a bounded, closed, connected set of points $[A]$ containing A and B such that no connected proper subset of $[A]$ contains A and B."

I shall show that the word "bounded" in this definition is superfluous.†

Lennes proves the simpler properties of formal order on an arc without any use of the assumption that it is bounded. He also proves (§§ 4, 8) that "if A_0 is any point of an arc AB, and t_1 any triangle containing A_0 as an interior point, then (in case $A_0 \neq A$) there is a point A_1 on the arc AA_0 and (in case $A_0 \neq B$) a similar point B_1 on the arc BA_0 such that every point of the arc A_1B_1 lies within t_1."

The following theorem also follows readily without use of the assumption that an arc is bounded:

If a point A_0 of an arc AB is a limit point of a set of points $[S]$ of the arc AB, and C is A or (if $A_0 \neq A$) any point of the

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* Loc. cit., p. 308.

† Since I wrote this paper it has been pointed out to me by Professor R. L. Moore that a modification of the argument used in the proof of Theorem 49 on p. 159 of his paper "On the foundations of plane analysis situs," *Transactions Amer. Math. Society*, vol. 17 (1916), pp. 131–164, would accomplish the same result.