ON REGULAR POINTS OF CONTINUA AND REGULAR CURVES OF AT MOST ORDER n*

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1. *Introduction.* In this paper it will be shown, as a consequence of some more general results, that if n is any integer $\neq 2$, the set of all points of order n of any continuum M in a locally compact metric and separable space is punctiform, that is, contains no continuum; and hence there exists no continuum every point of which is of order exactly n.

The ordinary notation and terminology of point set theory will be employed. For example, $\overline{X}=X+X'$, where X' is the set of all limit points of the set X; $K\cdot H$ means the set of points common to K and H; $K\subset H$ means that K is a subset of H and $K\supset H$ that K contains H; $\delta(M)$ denotes the diameter of the set M; $\rho(X, Y)$ denotes the minimum distance between the sets X and Y; if R is an open set, $F(R)$ denotes the boundary of R relative to the whole space, and if R is an open subset of a set M, $F_m(R)$ denotes the boundary of R relative to M, that is, the set of all those points of $M-R$ which are limit points of R. By a continuous curve is meant any connected im kleinen continuum. A neighborhood of a point is an open set containing that point. A point P of a continuum M is called a Menger regular point† of M, or simply a regular point of M, if for each $\epsilon>0$, P can be ϵ-separated‡ in M by some finite subset of M, that is, a finite subset U of M exists such that $M-U=M_1+M_2$, where M_1 and M_2 are mutually separated, $M_1\supset P$, and $\delta(M_1)<\epsilon$. If an integer n exists such that, for each $\epsilon>0$, the ϵ-separating set U can be chosen of power n, but cannot, (for every ϵ), be

* Presented to the Society, Southwestern Section, December 1, 1928.

† See K. Menger, *Grundzuge einer Theorie der Kurven*, Mathematische Annalen, vol. 95 (1925), pp. 277–306.

‡ P. Urysohn, *Sur la ramification des lignes Cantoriennes*, Comptes Rendus, vol. 175 (1922), p. 481.