Let $x \in E$. Denote by $S(x, \epsilon)$ the sphere of center x and radius ϵ. Denote by $G(x, \epsilon)$ the greatest distance of the points of $\bar{S}(x, \epsilon)$ from E. We are going to prove the following theorem.

THEOREM 2. *For almost all points of E (that is, for all points of E except a set of n-dimensional measure* 0)

$$\lim G(x, \epsilon)/\epsilon = 0.$$

It is well known that almost all points of E are points of Lebesgue density 1. Let x be such a point, and suppose that

$$\lim G(x, \epsilon)/\epsilon \neq 0.$$

This means that there exists an infinite sequence ϵ_i and points z_i, $z_i \in \bar{S}(x, \epsilon_i)$, $\epsilon_i \rightarrow 0$, such that the distance of z_i from E is greater than $c\epsilon_i$, where $c > 0$. But this clearly means that x can not have Lebesgue density 1. This contradiction establishes our theorem.

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ON MONOTONE RETRACTABILITY INTO SIMPLE ARCS

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In recent work on the area of surfaces Radó [1][1] has had occasion to use the following properties as applied to locally connected continua A:

(π) *Every simple arc in A is a monotone retract of A*;

(Π) *Every monotone image of A has property* (π).

Radó has noted that (Π) implies (π) and that the sphere and 2-cell each have (Π). In this paper it will be shown that (1) for locally connected continua in general, property (Π) is equivalent to unicoherence, (2) for plane locally connected continua, property (π) is equivalent to unicoherence, and (3) every closed 2-dimensional connected manifold has property (π).

To clarify our meaning, we recall that a continuum is compact, connected and metric. A continuous mapping $f(A) = B$ on a continuum A is *monotone* provided $f^{-1}(y)$ is a continuum for $y \in B$. If

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[1] Numbers in brackets refer to the Bibliography at the end of the paper.