COLLECTIONS FILLING UP A SIMPLE PLANE WEB

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A web has been defined [2][1] by R. L. Moore. A compact plane continuum W is said [1] to be a simple plane web if there exist an upper semicontinuous collection G of mutually exclusive continua filling up W and another such collection H also filling up W such that (1) G is a dendron with respect to its elements and so is H and (2) if g and h are elements of G and H respectively, the common part of g and h exists and is totally disconnected. It has been shown [1] that we have an equivalent definition if we substitute for (1) in the above definition the condition that (1′) G is a dendron with respect to its elements and H is an arc with respect to its elements. The present paper shows that an equivalent definition is obtained if condition (1) is omitted.

This paper gives conditions under which the collections filling up a simple plane web are *non-equicontinuous*. A collection of mutually exclusive continua is said to be *equicontinuous* if for every positive number ϵ, there is a positive number δ_ϵ such that if P and Q are points of an element g of G at a distance apart of less than δ_ϵ, there is an arc from P to Q in g of diameter less than ϵ. If a collection is not equicontinuous, it is said to be *non-equicontinuous*. If there exists a point P belonging to the limiting set of G such that every subcollection of G whose limiting set contains P is non-equicontinuous, then G is said to be *hereditarily non-equicontinuous* at P.

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A simple plane web is a continuous curve [3]. In establishing some of the following theorems, we shall make use of the fact [1, Theorem 1] that a necessary and sufficient condition that a continuous curve be a simple plane web is that it remain connected and locally connected on the omission of any countable set of points.

THEOREM 1. *A necessary and sufficient condition that a compact plane continuum W be a simple plane web is that there exist an upper semicontinuous collection G of mutually exclusive continua filling up W and another such collection H filling up W such that if g and h are elements of G and H respectively, the common part of g and h exists and is totally disconnected.*

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