PACIFIC JOURNAL OF MATHEMATICS
Vol. 47, No. 2, 1973

TERMINAL SUBCONTINUA OF HEREDITARILY UNICOHERENT CONTINUA

G. R. GORDH, JR.

The notion of terminal subcontinuum of a continuum is introduced as a generalization of the idea of terminal point and is used to study the structure of a large class $\mathscr{M}$ of hereditarily unicoherent Hausdorff continua. The class $\mathscr{M}$ contains all hereditarily unicoherent metric continua and all hereditarily decomposable, hereditarily unicoherent Hausdorff continua. The major result is that every member of $\mathscr{M}$ is irreducible about the union of its indecomposable terminal subcontinua. The known result that a hereditarily decomposable, hereditarily unicoherent Hausdorff continuum is irreducible about its terminal points is a corollary.

Introduction. That a dendrite is irreducible about its end points is a classical result. Miller generalized this by proving that a hereditarily decomposable, hereditarily unicoherent metric continuum is irreducible about its terminal points [8]. As she observed, this theorem is false for hereditarily unicoherent continua. In fact there exists a hereditarily unicoherent metric continuum containing no indecomposable subcontinuum with interior which has no terminal points (see Example 3, § 4).

The purpose of this paper is to extend Miller's definition of terminal point to that of terminal subcontinuum and to prove that every hereditarily unicoherent metric continuum is irreducible about the union of its indecomposable terminal subcontinua. Actually this result is proved for a class of hereditarily unicoherent Hausdorff continua which includes all hereditarily unicoherent metric continua and all hereditarily decomposable, hereditarily unicoherent Hausdorff continua. Miller's theorem and its generalization to the Hausdorff setting (see [5]) follow as immediate corollaries.

Fugate has given a different definition of terminal subcontinuum [2] and has used it to study chainable metric continua [2], [3]. We justify our new notion of terminal subcontinuum by proving that the two definitions are equivalent for chainable metric continua.

1. Definitions and preliminary remarks. A *continuum* is a compact, connected Hausdorff space. A continuum is *hereditarily unicoherent* if the intersection of any two of its subcontinua is connected.

NOTATION. Throughout this paper the letter $\mathscr{M}$ will denote the