Chapter 3

DIMENSION

Last section contains lost continua.

3.1 The concept of a curve. Mapping of $[0,1]$ onto $[0,1]^2$.

The arc-like continua are beautiful

3.2 Menger-Urysohn dimension of a space at a point.

The arc-like continua are beautiful

3.3 Universal spaces (in general).

The arc-like continua are beautiful

3.3.1 Hilbert's cube

3.3.2 Sierpiński Universal Plane Curve

The *Sierpiński Universal Plane Curve* is a well known continuum which serves as the universal element in the class of all one-dimensional continua in the plane. It is obtained as the residual set remaining when one begins with a square and applies the operation of dividing it into nine equal squares and omitting the interior of the center one, then repeats this operation on each of the surviving 8 squares, then repeats again on the surviving 64 squares, and so on $\cdots$. See [65, p.9].

The Sierpiński Universal Plane Curve can be characterized as the only plane locally connected one-dimensional continuum S such that the boundary of each