Contributions to the Study of $\lambda$-Connectedness in Product Spaces
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This dissertation provides some new classes of $\lambda$-connected products, as well as examines the proofs of some of the previously known results.

After providing some basic definitions and background information, there is an in depth examination of C. L. Hagopian's proof that the product of two non-degenerate hereditarily indecomposable is $\lambda$-connected. This is followed by some new results dealing with the unions of hereditarily indecomposable continua.

Following this is an alternate proof of a key lemma used by D. P. Bellamy to prove the result that the product of a $\lambda$-connected continuum with an arbitrary continuum is $\lambda$-connected. The new technique differs from the method that he used to prove the result and provides some insight into solving related problems.

Chapters 5 and 6 deal with two new cases of $\lambda$-connected products. The products $X \times Y$ are $\lambda$-connected if:

1. Every point of both of $X$ and $Y$ is contained in an arc.
2. Every point of both of $X$ and $Y$ is contained in a continuum of type $\lambda$.

Although the second case is a generalization of the first, I have included both proofs since the constructions are different and are enlightening in different ways.

Concluding the paper are a few specific examples of $\lambda$-connected products which do not satisfy the conditions of any of the results to date, including those proven here, but can be shown to be $\lambda$-connected by applying more than one of those results.