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WHEN SEMIMONOTONE IMPLIES MONOTONE

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A mapping between continua is semimonotone if the pre-image of a subcontinuum has a component that both maps onto the subcontinuum and contains the pre-image of the subcontinuum's interior. We show that a continuum is locally connected precisely when every semimonotone mapping onto it is also monotone. Moreover, if a continuum fails to be locally connected, it is the image, under a semimonotone nonmonotone mapping, of a continuum that shares many important properties–e.g., weight, covering dimension–with the original continuum.

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