## Extending group actions

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## Abstract

We show sufficient criteria for a group of homeomorphisms acting on a metric space X to extend to one acting on a given compactification of X. One might think that merely requiring each of the individual homeomorphisms to extend would suffice, but we give examples for when the extension can fail when one of the criteria is not met. A quick strengthening of the theorem is also presented (and thanks given for those suggesting it), and finally applications of this theorem are to be given to illustrate its usefulness.