

# Generic Elementary Embeddings and Cardinal Arithmetic

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In this tutorial we will develop the basic theory of generic elementary embeddings with a focus on applications to traditional cardinal arithmetic. We begin Silver's original proof that  $\aleph_{\omega_1}$  cannot be the first counterexample to the Generalized Continuum Hypothesis, move through work of Shelah in the 1980s on extending Silver's techniques, and finally look at some recent applications.