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**Monica VanDieren\*** (vandieren@rmu.edu), Robert Morris University, Department of Mathematics, Moon Township, PA 15108. *Independence results in the model theory of infinitary logics.*

Initial results in the development of a model theory for infinitary logic were splattered with set theoretic assumptions and sometimes turned to be independent of ZFC. Later on set theoretic assumptions continued to show up in model theoretic results for non-first-order logics because they served as a stand-in for compactness. We will provide a brief history of the interplay between set theory and model theory and highlight some recent advancements. (Received September 20, 2010)