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Don W. Hadwin* (operatorguy@gmail.com), 33 Academic Way, Math Dept UNH, Durham, NH 03824. *An Elementary Approach to Weak* Limits*. Preliminary report.

We begin, only using elementary techniques, to study and characterized the weak operator closure of composition operators induced by invertible measure-preserving transformations on the unit interval. We then apply this to studying the weak* operator closure of inner automorphisms of a von Neumann algebra. For example in a finite von Neumann algebra with no minimal projections (i.e., no finite-dimensional direct summands) the center-valued trace is a pointwise weak* limit of inner automorphisms. For such algebras on a separable Hilbert space this closure contains a conditional expectation onto every hyperfinite subalgebra containing the center. We also determine the weak* closure of the similarity orbit of every operator in a separable factor. (Received March 01, 2020)