The Steenrod operations act on the cohomology of a space, but this algebraic data has a more refined lift. There is a ring spectrum $A$ so that every space has an associated $A$-module, and on taking homotopy groups this recovers the action of the Steenrod algebra. The $A$-module structure, however, also contains the data of secondary and higher operations. In this talk we’ll discuss the Dyer-Lashof operations which act on the homology of infinite loop spaces and $E_\infty$ ring spectra, and how these operations can be realized by the action of a ring spectrum $R$ with a concrete relationship to $A$. 