The Tate sequence is the result of a unification of local and global class field theory, and describes the cohomology of the $S$-units in a Galois extension of number fields. In the traditional construction, $S$ was assumed to be large enough that the $S$-class-group was trivial. A refinement of Ritter and Weiss removed that assumption, so that their Tate sequence involved both the $S$-units and the $S$-class-group, giving rise to connecting homomorphisms not previously studied. We will provide the first descriptions of some of these connecting homomorphisms, and discuss some consequences.