

This talk is about joint work with Paddy Dowling and Barry Turett. Over the past few years we have studied fixed point free nonexpansive mappings T on closed, bounded, convex subsets C of a Banach space X . For example, Paddy and I showed that in every non-reflexive subspace Y of the function space $L1[0, 1]$, there exists a closed, bounded, convex set C and a nonexpansive map T on C that is fixed point free. This is the converse of a theorem of B. Maurey (1981). At about that time, Maurey also showed that every weakly compact, convex subset K of the sequence space c_0 is such that every nonexpansive $S : K \rightarrow K$ has a fixed point. Recently, Paddy, Barry and I proved the converse to this theorem; i.e. every closed, bounded, convex, non-weakly compact subset C of c_0 supports a nonexpansive map $U : C \rightarrow C$ that fails to have a fixed point in C . Thus, weakly compact, convex subsets K of c_0 are precisely those for which every nonexpansive $S : K \rightarrow K$ has a fixed point. I will discuss these and related results.