▸ JAKE PARDO, *Gambling against some odds.*
Penn State University.
E-mail: jpardo@alumni.nd.edu.

A restricted value martingale is a martingale whose increments take their magnitude from a given set of positive real numbers S – we call any such martingale an S-martingale. A set B anticipates a set A if every A-martingale is dominated by a countable set of B-martingales, and A evades B if this is not the case. Similarly, B singly anticipates A if every A-martingale is dominated by a single B-martingale, and otherwise A singly evades B. Bavly and Peretz investigated the anticipation/evasion relationships between various sets of real numbers and in the process solved the case where $\sup A$ is bounded and B is bounded away from 0 and the case where B is well-ordered. This left a big question: what happens when 0 is an accumulation point of B?

I will prove that the natural numbers $\mathbb{N}$ singly evade the set $\{x^{-n} : n \in \mathbb{Z}\}$, where x is any positive real number. The proof is based on a betting game between two gamblers, one using an A-martingale as a strategy and the other using a B-martingale, in which a strategy for the A-martingale gambler is produced. The proof has an interesting connection to the n-Fibonacci numbers.