

# Mechanisms of coexistence in natural and tumor ecosystems

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What Prof. Burt Kotler published in 1988 (Ann Rev Ecol Syst) still resonates today: "A mechanism of coexistence usually involves the interplay between an axis of environmental heterogeneity and a trade-off among the individuals exploiting the axis". Such mechanisms, explicitly or implicitly, form the basis for current research into biodiversity, niche theory, niche partitioning, and modern coexistence theory. Mechanisms include diet choice, habitat selection, variance partitioning, and food-safety tradeoffs. Burt's research has made significant contributions to all of these. But it is this last one, foraging under predation risk that has been Burt's scientific goldmine. And what wonderful nuggets he has discovered. In exploring these research accomplishments and other research on how species coexist, we will answer some key questions. How far back do Burt and deserts go? What is the ontogeny of the vivarium? How did Burt, a desert rodent guy, work in so many places? And how is that Prof. Kotler is teaming up to establish a new sub-discipline: *Cancer community ecology*?

