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James D. Currie* (j.currie@uwinnipeg.ca), Faculty of Science, University of Winnipeg, 515 Portage Ave, Winnipeg, Manitoba R3B 2E9, Canada. *Perfect sets and words avoiding patterns.*

A non-empty set L of ω -words is **perfect** if whenever $u \in L$, there are other elements of L sharing arbitrarily long prefixes with u . The set of binary overlap-free ω -words is known to be perfect, and for any positive integers k and n , the set of ω -words on an n -letter alphabet avoiding k powers is either empty or perfect. I conjecture that for an arbitrary pattern p , the set of ω -words on an n -letter alphabet avoiding (or avoiding in the Abelian sense) p is either empty or perfect.

I will show that the results mentioned above on overlap-free words and k -power-free words can be shown using a unified set of technical tools, and will discuss the relevance of these tools to typical questions of combinatorics on words: n -avoidability, extendibility of words, and complexity of languages. (Received August 15, 2014)