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Kyle Hayden* (hayden@math.columbia.edu) and **Erica Choi**. *Dehn surgery versus double branched covers*. Preliminary report.

Dehn surgeries and double branched covers along knots are two of the most important and well-studied constructions of 3-manifolds. In comparing these constructions, a simple question arises: Is the double branched cover of a nontrivial knot K in S^3 ever obtained by Dehn surgery on that same knot K ? I will discuss how this can be ruled out for large classes of knots, including work in progress addressing the 300,000 knots with fewer than 16 crossings. But before you're tempted to conjecture that this phenomenon never occurs, I'll present a counterexample. It's the only one found to date, and it is at the heart of some truly exotic phenomena. (Received January 19, 2021)