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Benson Farb* (farb@math.uchicago.edu), Math Dept., Eckhart Hall, University of Chicago, 5734 S. University Ave., Chicago, IL 60614. *Braids, homology and polynomials : an emerging pattern in algebra and topology.*

Natural mathematical objects often occur in families parametrized by the natural numbers. Examples include the group of invertible $n \times n$ integer matrices (and its congruence subgroups), spaces of configurations of n distinct points on a manifold, and various spaces of polynomials in n variables. It was recently discovered that certain numerical invariants attached to these sequences, such as Betti numbers and dimensions, actually "stabilize" to a polynomial in n once n is big enough.

In this talk I will try to explain what is happening here, tell the story of how it was discovered, and expose a single mechanism responsible for the common behavior in these very different examples. Along the way we will see this stability phenomenon reflected in the combinatorial stability of counts of degree n polynomials over finite fields. This is joint work with (various linear combinations of) Tom Church, Jordan Ellenberg and Rohit Nagpal. (Received September 17, 2013)