1064-11-4 **Jordan S Ellenberg*** (ellenber@math.wisc.edu), Department of Mathematics, University of Wisconsin, 480 Lincoln Drive, Madison, WI 53706. *Geometric Analytic Number Theory.*

I will discuss some emerging relationships between asymptotic counting problems in number theory and stabilization results in topology and group theory, summed up by the slogan "stable cohomology implies asymptotics over function fields suggests asymptotics over number fields." A motivating example will be an analogy between two classical problems: counting squarefree integers and computing the cohomology of the braid group on many strands. We will go on to speculate about the light this point of view may shed on various asymptotic conjectures in number theory (e.g. the conjectures of Cohen-Lenstra, Malle, Bhargava, Batyrev-Manin...) The work discussed is joint with A. Venkatesh and C. Westerland. (Received August 31, 2010)