1088-03-238 **Rehana Patel*** (rehana.patel@olin.edu), F.W. Olin College of Engineering, Olin Way, Needham, MA 02492. *A Random Walk Through Zero-One Laws for Classes of Graphs with a Forbidden Subgraph.*

A collection $\mathcal{C}$ of finite structures has a *first order labeled zero-one law* if, for any first order sentence $\varphi$ (in an appropriate language), the proportion of $n$-element structures in $\mathcal{C}$ that satisfy $\varphi$ has limiting value either 0 or 1, as $n \to \infty$. The classic example of such a collection is when $\mathcal{C}$ consists of (the isomorphism types of) all finite graphs. Kolaitis, Prömel and Rothschild have shown, building on work of Erdős, Kleitman and Rothschild, that for each $\ell \geq 3$, the class of all finite $K_\ell$–free graphs has a first order labeled zero-one law. The question then arises: For which graphs $H$, other than $H = K_\ell$, does the class of all finite $H$–free graphs admit such a zero-one law? In this talk we will survey the cases known to the speaker, providing a partial catalog, and outline some conjectures and possible approaches to resolving them. (Received February 11, 2013)