While functional MRI has solidly established itself as an important tool for neuroscience, the rate of development of new fMRI techniques and applications has shown no sign of slowing down. In this lecture I highlight three different yet linked avenues of research from my group that involve taking a closer and slightly different look at the fMRI signal. In the first part, I focus on fMRI dynamics, discussing our use of task timing modulation and neuronal and hemodynamic modeling to begin to understand the sources of the observed nonlinearities in the signal change. In the second part, I discuss our work on understanding “resting state” fluctuations. Here I emphasize our efforts to understand and use, in a couple of different ways, the contribution of respiration changes to fMRI signal changes. In the third part, I discuss an exciting approach to fMRI paradigm design and analysis that we have been recently pursuing. Rather than ask which regions are activated during a task, we pose the question of whether a region carries a particular kind of information. We call this pattern-information analysis, and describe several manifestations of it. In particular I discuss a recent application involving the comparison of human and monkey IT across modalities using pattern similarity matrix analysis and a paradigm involving 96 different stimuli. A summary figure of these results is shown below.