1067-37-1533   **Jeremy Avigad*** (`avigad@cmu.edu`), Department of Philosophy, Baker Hall 135, Carnegie Mellon University, Pittsburgh, PA 15213. *Inverting the Furstenberg correspondence.*

Roughly speaking, the Furstenberg correspondence principle shows that given any sequence of sets $S_n \subset \{0, \ldots, n-1\}$, there exists a subsequence and a measure μ on $2^{\mathbb{N}}$ which reflects the limits of the densities with which patterns occur in that subsequence. I will explain how this process can be inverted, so that any measure μ on $2^{\mathbb{N}}$ (not necessarily ergodic) can be represented by such a subsequence. Similarly, factors of μ can be represented as limits of appropriate "factors" of the elements of this subsequence. More generally, I will discuss some of the relationships between ergodic-theoretic and finite fourier-analytic methods in ergodic Ramsey theory that play a key role in work by Tao. (Received September 21, 2010)