1117-00-539   **Clifton Callender*** (`clifton.callender@fsu.edu`). *Aperiodic Canons, Hemiolas, and Tilings.* Any rhythm can be described as the quantization of a continuous, monotonic function. Digitized lines of rational slope correspond to maximally-even rhythms (Toussaint), while digitized periodic functions of rational mean slope give rise to oscillating rhythms, such as the ostinato of György Ligeti's *L'escalier du diable*. Functions with irrational mean slopes yield quantized rhythms that are aperiodic. This presentation explores the theoretical and compositional potentials of aperiodic canons, hemiolas, and tilings. Specifically, 1) asymmetric, aperiodic hemiolas of the form $p : q$ result from quantizing a function at values of the domain that are multiples of p and q, respectively; 2) digitized lines of irrational slope a gives rise to n-tuple canons, the voices and relations of which are determined by the terms of the continued fraction expansion of a; and 3) while rhythmic tilings are typically periodic with tiles of finite length, tilings based on quantized rhythms can be aperiodic with infinitely long tiles and a composite rhythm that is a diminution of one or more tiles. (Received January 19, 2016)

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