

The effect of familiarity on the time course of responses to modulation in classical music

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We investigated listeners' responses to modulations in two Haydn string quartets from op.76 in D minor (no. 2) and C major (no. 3). Listeners at two levels of musical expertise (untrained, N = 60, vs. 6 or more years of training, N = 60) heard the 2-min exposition sections of the quartets, continuously rating how well the 12 possible probe tones fit the music, for 12 trials with each quartet. We assessed tonal hierarchy profiles for 11 5-s samples at approximately equal time intervals throughout the excerpt, with particular attention to points at which the music modulated, and correlated those profiles with the standard profiles of the keys in question. In general, more experienced listeners reflected the key changes in their ratings, whereas inexperienced listeners responded more globally, producing profiles that captured the principal keys of the excerpts as a whole. Here we compared ratings produced for the first three trials with a given excerpt, when it was relatively unfamiliar, with those for the last three trials, when they had heard it 9 or more times. As the more experienced listeners became more familiar with an excerpt, they tended to respond more globally, flattening out the shifts in their responses at points of modulation. In contrast, the inexperienced listeners became more attentive to the details with greater familiarity, registering the modulations more sharply. Both groups showed similar latencies of response to the modulations; in particular, in the C-major quartet they responded very slowly to the modulation from G major to G minor, and very quickly to the shift from G minor to Eb major.