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The colors and textures of musical sounds

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Abstract: Music-to-color associations show emotionally-mediated cross-modal correspondences (Palmer et al., 2013): people choose colors as going best with music when their emotional content matches (e.g., happy-looking colors go best with happy-sounding music). What musical/acoustic features underlie such correspondences? And are music-to-texture correspondences also evident? Experiments using highly-controlled melodies that varied in tonality (major/minor), note-rate (fast/medium/slow), and register (high/low) revealed systematic correspondences between musical/acoustic and colorimetric dimensions: faster, major, higher-pitched melodies were associated with more saturated, lighter, yellower colors, whereas slower, minor, lower-pitched melodies were associated with more muted, darker, bluer colors. Further experiments revealed emotion-mediated associations from music to texture, although agitated/calm and angry/not-angry emotions were stronger with textures, whereas happy/sad emotions were stronger with colors. Systematic associations were also evident between visual/spatial features of texture (e.g., Sharp/Smooth, Curved/Straight) and musical dimensions (e.g., note-rate and piano/cello timbre).