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Voice Leading and Composition.

Musical chords can be represented as points in orbifolds, quotient spaces arising from listeners' relative indifference to octave and note order. "Voice leadings" correspond to vectors in these spaces and represent ways of moving between chords. Understanding these spaces is a central issue for composers and theorists. In particular, we have reason to ask whether there are sensible, non-trivial, and generally applicable techniques for working within the space of all possible chords—that is principled and aurally meaningful compositional strategies more general than the limited idioms of existing styles.

In my talk I describe progress on this question, detailing a large network of isomorphisms relating almost all possible chords in almost all possible scales. Using these isomorphisms it is possible to transfer musical techniques among almost arbitrary harmonic domains. I illustrate with excerpts from "The Thousand Faces of Form," an orchestral piece with live visual accompaniments reflecting the geometrical structure of its harmonies. (Received September 07, 2016)