



Geometrical Representations of North Indian Thaats and Raags

Rachel Hall (St. Joseph's University) and
Chiru Bhattacharya (Randolph-Macon College)

A raag is a fundamental melodic entity in North Indian Classical Music. Bhatkhande (1951, 1954) classifies raags by their seven-note parent modes known as thaats. Most raags “belong” to one of only ten thaats, although thirty-two thaats are considered theoretically possible. Each raag has features that set it apart from other raags within a thaata: its ascending and descending lines (aroh and avroh), its “catch phrase” (pakar), its emphasized notes, its cardinality, and its melodic compass. Our goal in this paper is to construct geometrical models representing set-theoretic relationships between the thaats and raags in North Indian Classical Music. Following the principles of geometrical music theory (Callender, Quinn, and Tymoczko 2008), we locate the thirty-two “theoretical thaats” in a five-dimensional lattice. Jairazbhoy’s “Circle of Thaats” connecting the ten common thaats embeds within this lattice (Jairazbhoy 1971). For a given raag, our geometrical representations show which theoretical thaats are supersets of notes used in the raag’s aroh, avroh, and pakar separately. These determine, largely, the degree of proximity of a raag to its thaata. We have written Matlab code that produces images of a database containing a large number of raags. Our models reveal graphically some of the difficulties of Bhatkhande’s raag classification system.