Modes of Spatialization

This document gives an overview of different modes of sound spatialization for the given soundtracks taken from Co Co Beaux's *Stairwell* album. 13 soundtracks of *Tupelo Honey* song were configured at different positions in space. Some of these example configurations were coded under "orc", "arc", "double_arc", "360", and "elevation" acronyms. These configurations, inspired from my personal experiences as well as musical concepts, aims to provide different musical experiences through having singing parts in different positions and serve as a reference point for our next part where singing parts are positioning based on their spectral centroid values.

"arc" is an acapella term used within the group to refer to the default singing positions. This positioning requires bases in the middle of the arc, baris positioned at both sides of the basses, tenor 1 and tenor 2 parts at the tip of the arc. This has proven itself to give a more wholesome sound in practices and concerts and have been the most preferred positioning of the group.

"orc" is a term I came up with to refer to orchestra seating charts. Orchestras of classical period have their cellos/double basses on the right, violas to the left of basses toward the middle, first violins on the left, and second violins to the right of first violins toward the middle. Inspired from this seating, "orc" is configured to play the soundtracks at an orchestra setting.

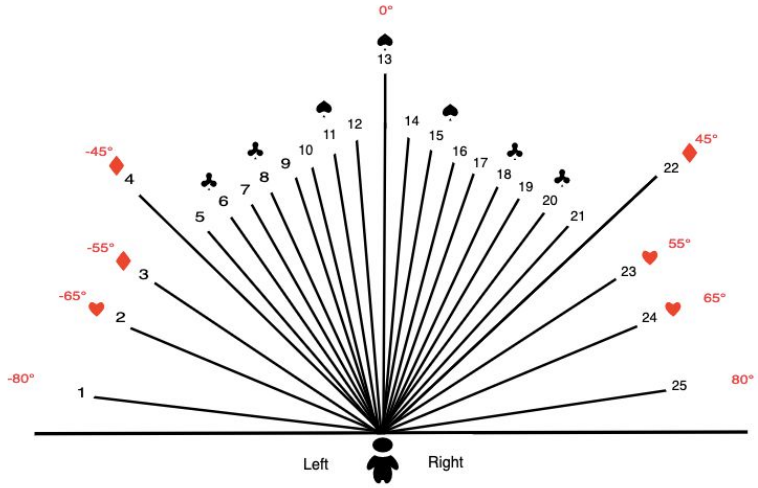
Acapella groups do not only sing in the "arc" position. Groups tend to play with positioning of singing parts to provide a better visual and musical experience for the audience. "Double_arc" is an alternative positioning where singers form 2 arcs, one standing in front of the other one. This configuration has known to help singers to hear each other better and sing in unison.

"360" is a configuration to mimic a situation where the audience is in the middle of the singers. This places different singing parts around the audience and aims to provide an experience where listeners feel like there are among the singer.

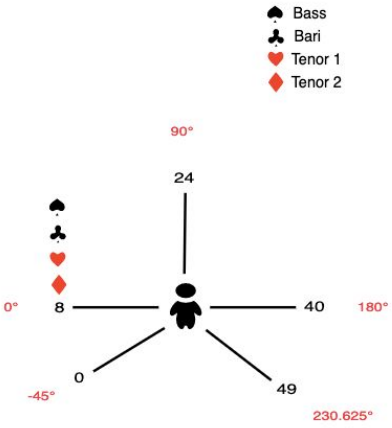
Different elevations are also available, and are experimented with configurations explained above. Different versions of each group are labeled with incremental numbers and demonstrate how elevation can be influential in how we hear the music.

This document provides diagrams of configurations available in this project and helps you understand each setup with azimuth and elevation visualizations.

arc_1 - Directly ahead

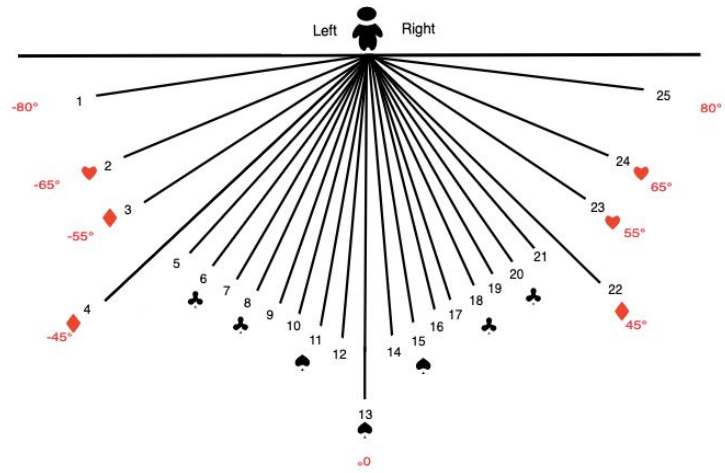


Azimuth

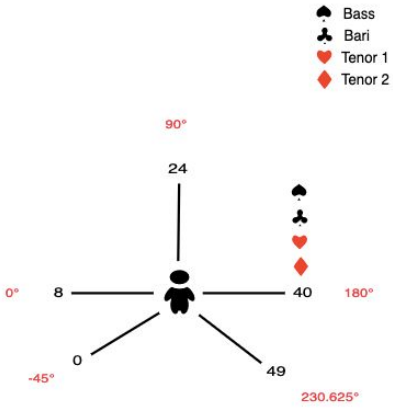


Elevation

arc_2 - Directly behind

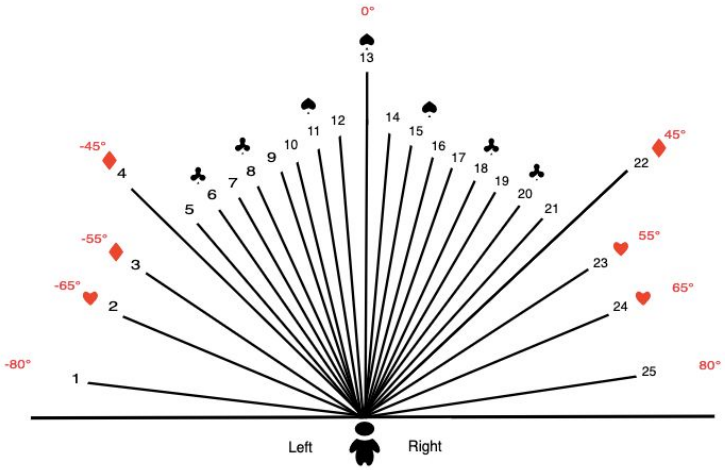


Azimuth

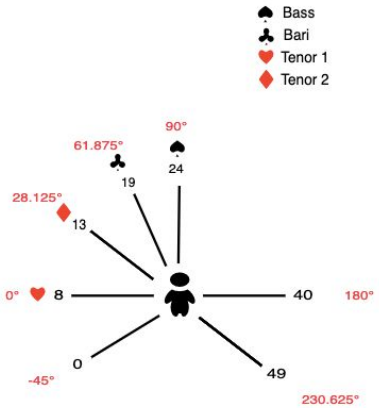


Elevation

arc_3 - Varying elevations

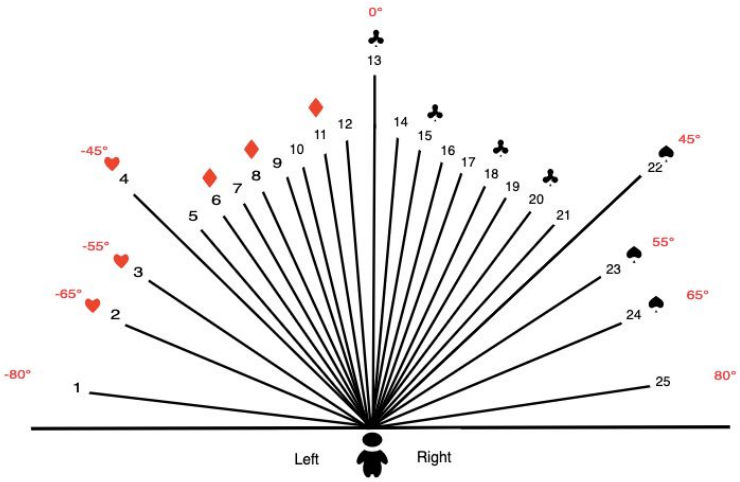


Azimuth

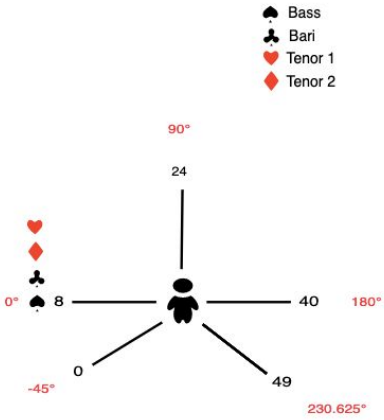


Elevation

orc_1 - Directly ahead

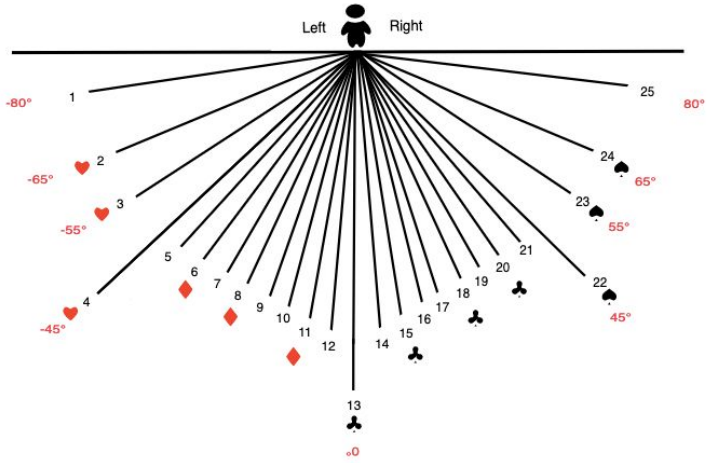


Azimuth

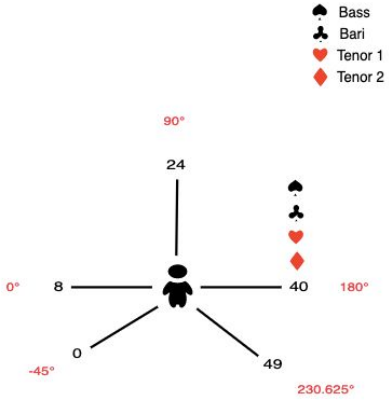


Elevation

orc_2 - Directly behind

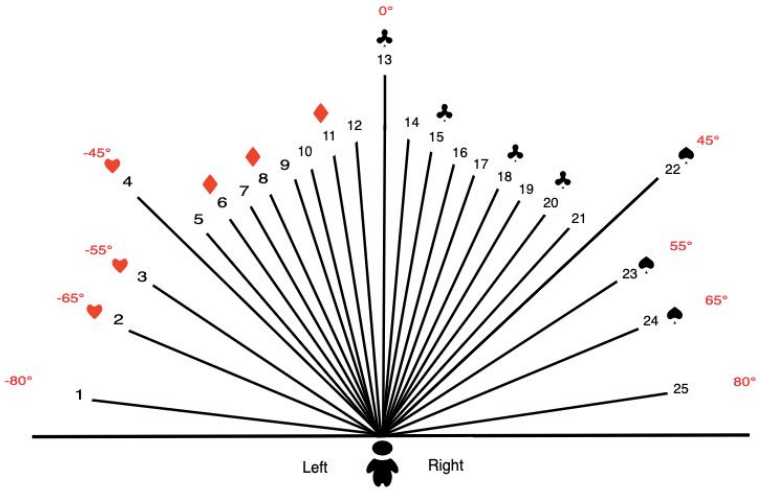


Azimuth

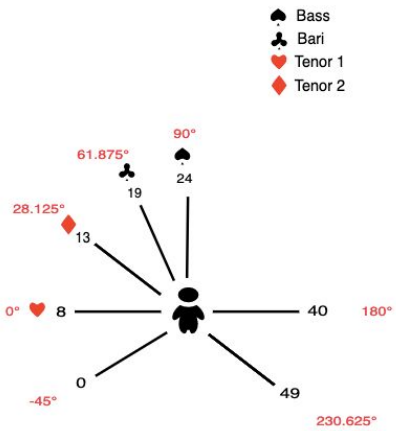


Elevation

orc_3 - Varying elevations

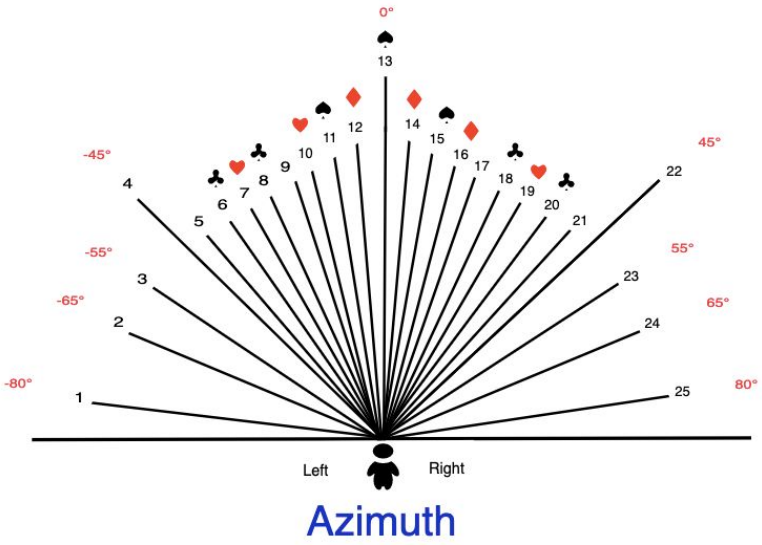


Azimuth

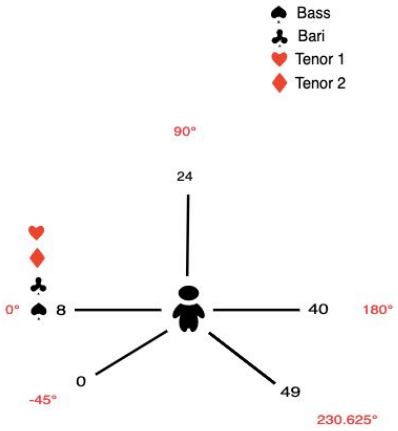


Elevation

double_arc_1 - Directly ahead

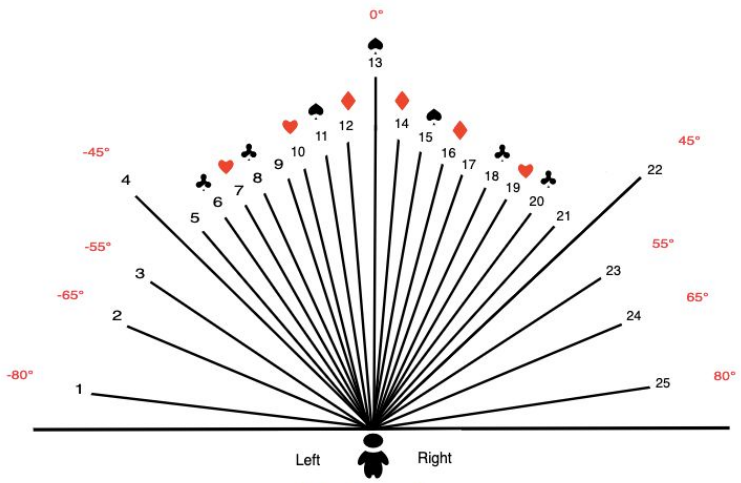


Azimuth

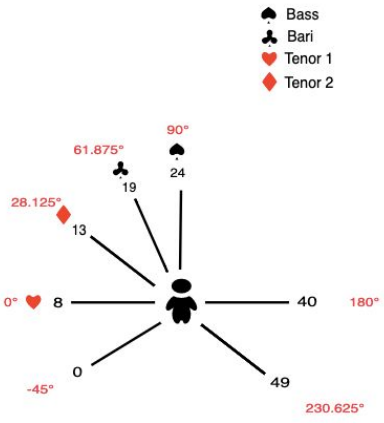


Elevation

double_arc_2 - Varying elevations

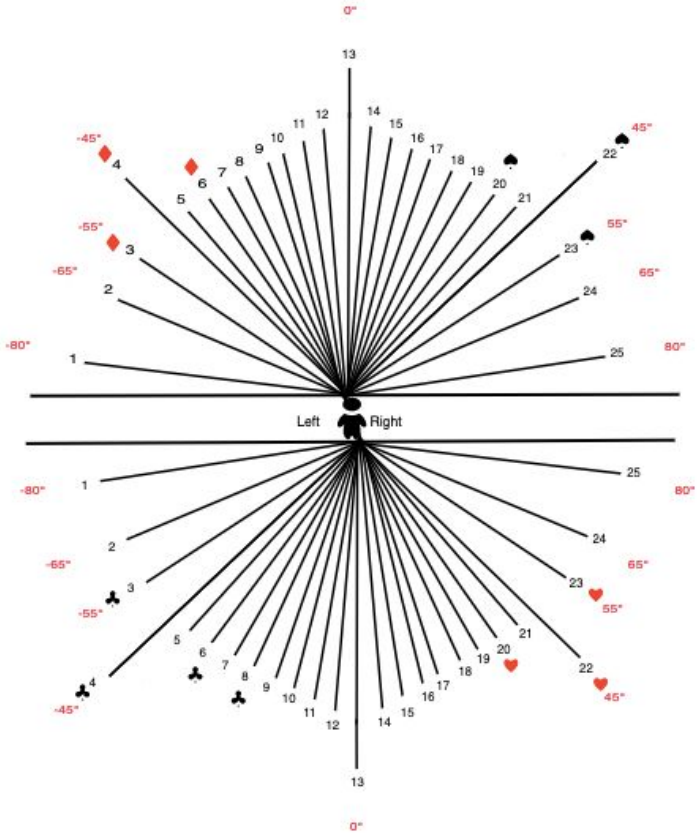


Azimuth

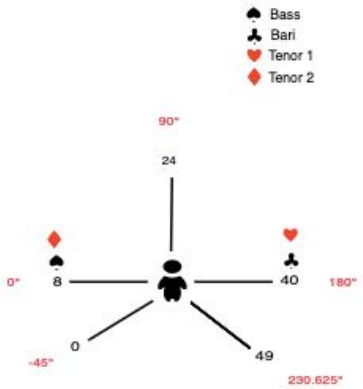


Elevation

360_1

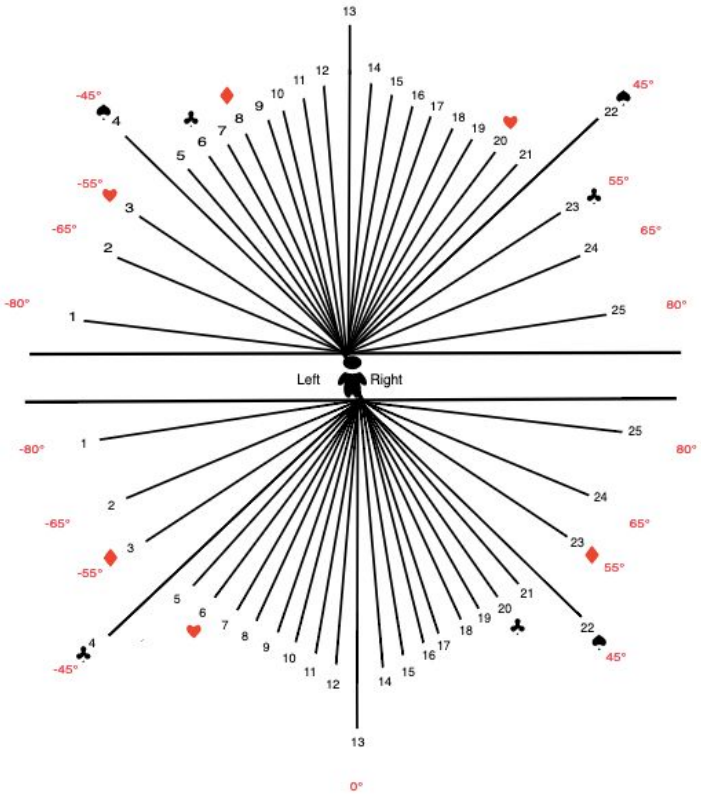


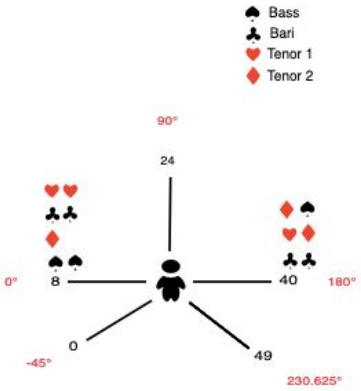
Azimuth



Elevation

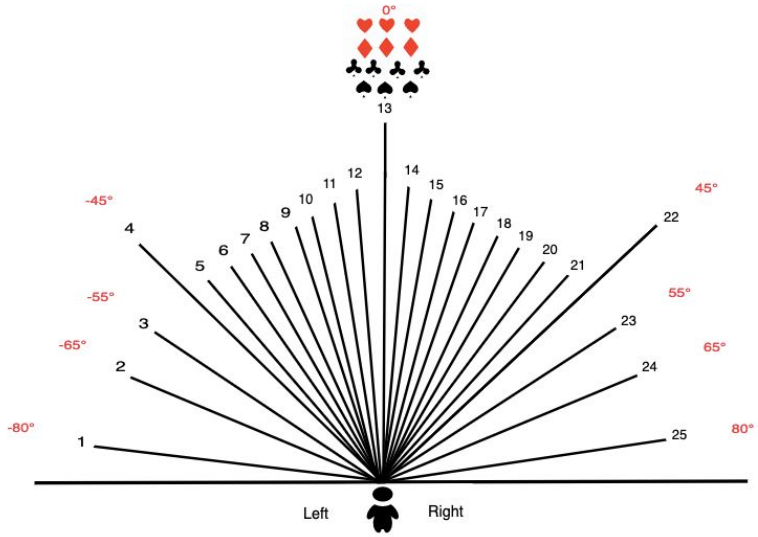
360_2



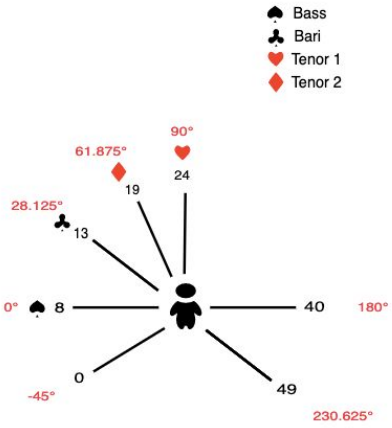


Elevation

elevation_1 - Base to Tenor1

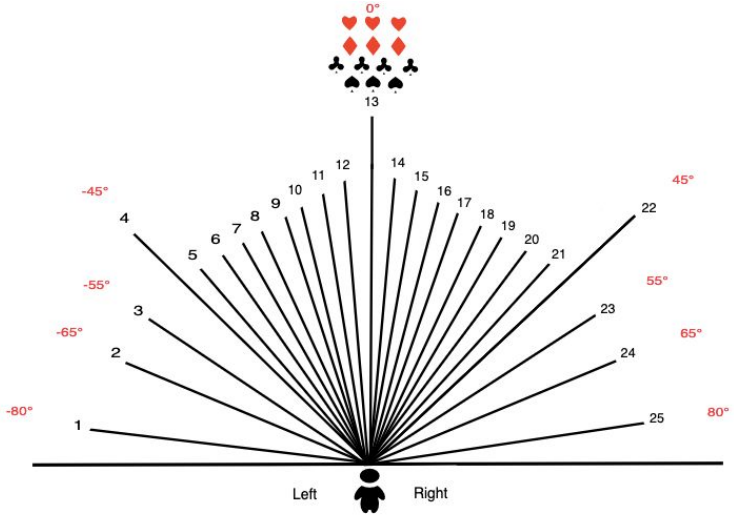


Azimuth

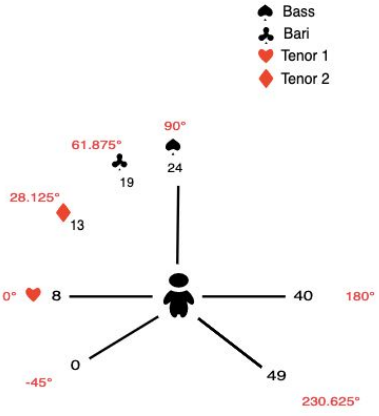


Elevation

elevation_2 - Tenor1 to Base



Azimuth



Elevation