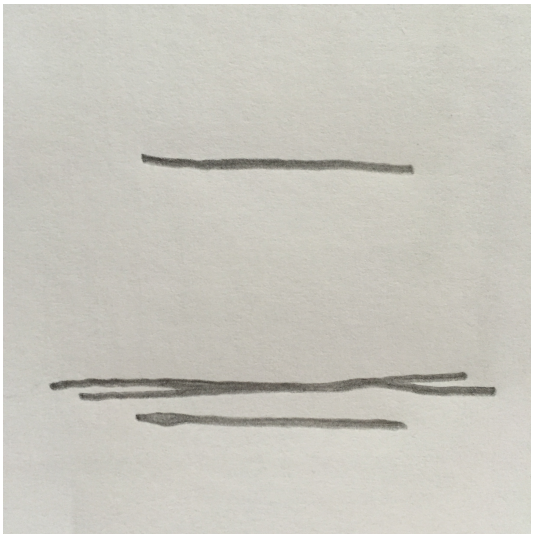
Orbits

Jordan Dykstra

for sheng/shō, violin/viola, and sine-tones

Shortly after the sine-tone playback begins, the string player creates a glissando, beginning just below the sine-tone's pitch and ending just above. The wind player then simultaneously voices two tones: one orbiting very near the sine-tone's pitch (perihelion) and one very far away (aphelion). The string player fades out only after the wind player's task is completed, the entirety of the sounds occurring within the duration of the sine-tone.

Both the string player's attack and release should be minimal; their bow long, slow, and without vibrato to ensure a pure and smooth timbre of sound. The wind player should use one long and stable breath to voice their dyad, also focusing on purity of sound.



Val Verde, California, July, 2016
Updated: Middletown, Connecticut, February, 2017

Performance note: If possible multiple duets of string and wind players should be used for a performance with everyone using the same sine-tone playback. The sine-tone playback may be requested from the composer. At the beginning of playback there is a 30" silence for preparation. At 0:30 a sine-tone will play until 1:00, then there is a 10" silence before the next 30" sine-tone plays from 1:10-1:40—and so on and so forth—until all 24 sine-tones have been voiced. The duration of the piece is 16:20. The playback may be created by an engineer who follows these simple rules: the hertz frequency of the tones are chosen as a random number anywhere in the wind player's range, the tones should all gently fade in and out and never overpower the instrumentalists.

Below is one example of the (randomly-produced) sine-tone pitches in order, hertz frequency, and equal temperament equivalence for a version with 17 pipe sheng:

1	574	D5 -39c
2	920	A#5 -23c
3	538	C5 +49c
4	644	E5 -40c
5	879	A5 -2c
6	628	D#5 +16c
7	448	A4 +32c
8	1044	C6 -4c
9	874	A5 -11c
10	683	F5 -39c
11	463	A#4 -11c
12	879	A5 -2c
13	442	A4 +8c
14	943	A#5 +18c
15	452	A4 +47c
16	633	D#5 +30c
17	662	E5 +8c
18	559	C#5 +15c
19	579	D5 -25c
20	581	D5 -19c
21	483	B4 -38c
22	1024	C6 -37c
23	802	G5 +40c
24	1035	C6 -19c