Transposed Dekany: a microtonal workshop and performance using the Satellite Gamelan app

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Abstract: My proposal is a workshop-rehearsal that leads to a performance by a consort of eighty iPhones. The workshop will focus on the features of a scale used in a microtonal composition called *Transposed Dekany.* Workshop participants will perform this using the Satellite Gamelan iPhone app. The app embodies both the musical score of *Transposed Dekany* and the software instruments used to perform it. The workshop will include a rehearsal that leads to a concert performance. Though the Satellite Gamelan app is designed to be easy to play and quick to learn, audience participation during a concert performance is beyond the scope of its design; anyone who would like to take part in a performance of *Transposed Dekany* is encouraged to join the workshop rehearsal where every player will be briefed on the musical expectations of the project.

Objectives: Participants will explore a microtonal space created using the Satellite Gamelan app. The app is based on a dekany, a 10-note scale devised by contemporary theorist and instrument-builder Erv Wilson. The app will be explained in terms of how this scale is derived from pure harmonics, what are its salient harmonic and melodic properties and what textural and acoustic by products players can expect when this scale is played simultaneously in different transpositions on different instruments.

Setup: To start the performance, every player make three selections using the app:

> **which family:** the consort is divided into five families of instruments; each family enables a different scale transposition; players chose a family by selecting 1-of-5 coloured buttons (*Figure 1*).
>
> **which instruments:** each family has sixteen members; each member choses a uniquely-assigned set of pitched instruments; these are selected using 1-of-16 buttons (*Figures 2a, 2b, 2c, 2d and 2e*).
>
> **start together:** once these settings have been selected every player taps the centre button together (*Figures 3a, 3b, 3c, 3d and 3e*); this synchronises the clock that drives the app on every phone.

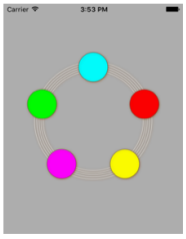


Figure 1

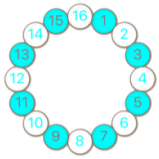


Figure 2a

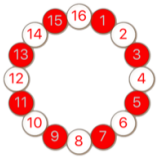


Figure 2b

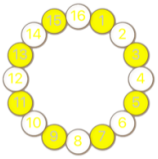


Figure 2c

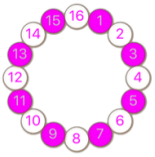


Figure 2d

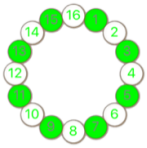


Figure 2e

Figure 3a

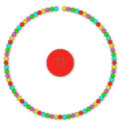


Figure 3b

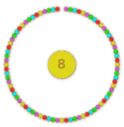


Figure 3c

Figure 3d

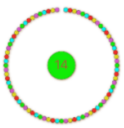


Figure 3e

Performance: Thereafter the app displays performance cues to which players respond in their own time:

> **when to play:** throughout the performance the clock drives a sequence of 31 states that enable and disable each family of instruments; the sequence covers every combination of five families playing individually or in various combinations with other families; each state lasts 24 seconds; as the sequence advances, a clock updates the current state (*Figure 4*).

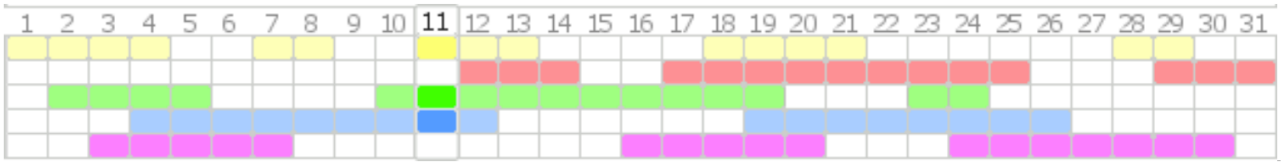
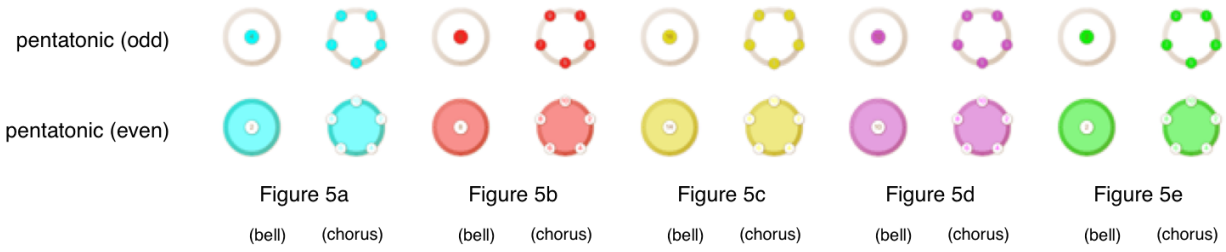


Figure 4

what to play: enabled states cue which instrument to play; bell tones are played by gently shaking the phone like a conventional handbell; chorus tones are played by tapping 1-of-5 points on the perimeter circle; as this particular flavour of dekany contains two 5-note scales that are recognisably pentatonic, separate cues have been provided for each pentatonic scale (*Figures 5a, 5b, 5c, 5d and 5e*).



Concept video: Workshop participants are encouraged to watch a concept video submitted for the Space Time Concerto competition in 2012 when the app was first used in a performance involving linked concert venues.

https://www.youtube.com/watch?v=gfaZly6dhQA

Satellite Gamelan app (currently iPhone only): Intending workshop participants are asked to download the Satellite Gamelan Version 1 prior to the workshop. It can be downloaded from iTunes free-of-charge.

https://itunes.apple.com/app/satellite-gamelan-1/id578880973?mt=8

A new version will be available closer to the start of the Conference and will remain free-of-charge until the Conference closes. Note: the new version will support a consort subdivided into five families as proposed in the concept video, unlike the app used in the 2012 performance which subdivided the consort into four families.

ICAD relevance: This proposal is relevant to ICAD in so far as it deals with an approach to mapping microtonal data. Much of this data - or tuning theory - originated in the minds of mathematicians and cartographers and has yet to find its place in the auditory world. The Satellite Gamelan app, though restricted to a single microtonal scale, offers a simple way to navigate musically unchartered terrain without the need to develop a highly nuanced performance practice associated with playing conventional instruments. In the process workshop participants will hopefully acquire a taste for the tuning variety that characterises much of the world's music.

Duration

- **workshop: 3 hours;** the workshop will be in two parts: part one will focus on using the app and understanding its harmonic features, while part two will focus on rehearing for the concert.

- ***Transposed Dekany*: 12':24";** expected stage setup time is approximately 10-20 seconds.

Technical and space requirements:

- **workshop:** I will need an assistant to coordinate assigning family and instrument numbers to each player and if necessary to assist any player that still needs help downloading the app.

- ***Transposed Dekany*:** the ideal venue will have high ceilings and reflective acoustics sympathetic to sound levels produced by a large consort of un-amplified instruments; no mains-powered concert amplification is required; every instrument can be set up by its player without technical support; however, players may need AC power outlets to charge phones prior to the concert.
- players enter the venue in single file holding an iPhone and taking up positions surrounding the audience (*Figure 5*). Once players are in place a lead player starts a silent 'new-years-eve' countdown from 'five'; the performance starts as all players tap the centre button together on 'zero' (*Figures 3a, 3b, 3c, 3d and 3e*).

Figure 5

Enquiries: To register an expression of interest or make enquiries please visit www.gregschiemer.net/ICAD.