

New Pentatonic Scale Relationships with Visual Parallels

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There will be a live performance of a piece called "Tessellations" for solo acoustic piano. The piece is continuous and lasts one hour. With the performance will be projected slide images of pentagrammic tessellations. After this performance there will be a two-part illustrated talk. Part one covers the scales used in "Tessellations", their origins and how they are related to one another. The second part consists of visual ideas and how they are related to the piece. There will finally be an appraisal of the integral role that improvisation plays in this project.

1. The Performance

1.1. The music. Visual interlocking symmetries and geometric shapes are transferred to the audible world of rhythm and counterpoint, with the spirit and energy of jazz, improvisation and folk music always at the heart of the performance. The piece contains a sequence of 52 closely linked pentatonic scales. Each scale has two pre-established areas in which ideas for improvisations can be explored and developed, and because the piece is continuous, the player and listeners take part in a journey that lasts about one hour.

1.2. The images. A series of 15 projected slides is shown during the performance. These slides contain some of the written musical theory superimposed on visual tessellations, some of which are historical examples while others are 'original', as follows:

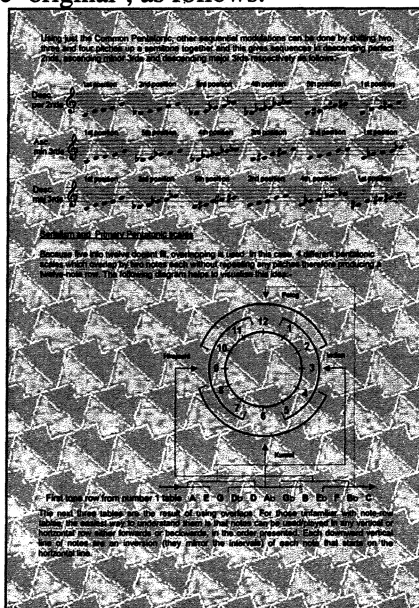


Figure 1: An example of a tessellations image with superimposed theory

1.3. Origins. "Tessellations" attempts to offer examples of how these scales can be used in a contemporary context. It has been awarded financial support by The Peter Whittingham Foundation (London) and is being promoted by an agent in Zurich (<http://www.margaretapeters.ch>)

2. The presentation

Part 1. Theory

2.1. Six specific pentatonic scales will be examined using basic musical notation. They will be listened to using various ethnomusicological recorded examples taken from India, Asia, the Far East, and Africa. Their intervallic structure will be observed and it will be shown how each is closely related, although they are most often found as separate entities in many rural and folk cultures.

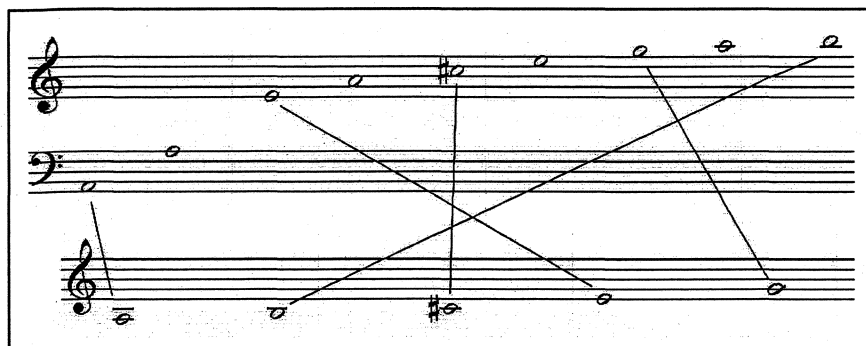


Figure 2: A notation example giving construction of pentatonic overtone scale.

2.2. The dubious and precarious relationships of these scales within European equal temperament will be discussed. The pitch division inadequacy will be explored. Justification will be made for compromising intervallic measurements in order to combine and use them in modulation.

2.3. Using pentatonic scale 'versions' as opposed to 'inversions' as a means of generating new scales will illustrate possibilities for further development.

The following aspects in Parts 2a & 2b will be discussed:

Part 2a. Application

2.4. A basic description of "Tessellations", the process of realisation, and how the piece uses the six pentatonic scales.

2.5. A definition of Interscalic Modulation and Sequential Modulation.

2.6. Aggregates, combinations, and use in serialism and row construction (see lower part of fig 1).

Part 2b. Visual parallels

3.1. The similarities of rhythm with geometry (e.g. pulse, space and distance).

3.2. Counterpoint, polyphony and interlocking visual shapes in tessellating structures.

3.3. Processes of form manipulation within improvisation – 'bending the rules' (with variations!). Use of repetition, ostinati and rhythmic cycles.