Composers' Desktop Project and HITHER GATE MUSIC present

CDP Workshops CD-2

How to Compose with CDP Texture
and
Transposition, Shifting & Combinations

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This CD contains two Workshops for intermediate to advanced CDP Users, along with all sound examples, with links from the HTML documentation.

About the CDP Texture Programs

- The **Texture Workshop** focuses on the CDP Texture Program Set created by Trevor Wishart. It has 21 fully documented example textures that unfold compositional possibilities step-by-step.

- The Texture Program Set creates **multi-event sound textures** from one or more soundfile sources, with many time-varying parameters as shaping controls, including segment length, density, transposition, amplitude, and spatial position. Events can also be 'snapped' to a pre-defined chord, or several chords over the time of the texture being created. Of special importance is the way that you can use and balance both defined and randomised musical components. In a broader context, they enable direct connections to be made between visual and sonic patterns.

- Here are some of the many **musical results** which can be achieved with this set of programs:

    o many ways to work with note events whose parameters are selected at random within (time-varying) user-defined limits

    o texture densities from widely-spaced to tight 'granular'

    o timing scatter or quantisation controls

    o able to use the whole length of the input sound for each note event

    o multiple soundfile inputs accepted

    o can 'snap' granular densities to user-defined chords – or a changing set of chords

    o able to write legato or staccato melodic motifs

    o able to create canonic (imitative) effects

- able to create motifs and attach them to pre-defined melodic lines

- able to use a rhythm as the basis for a texture

- can repeat rhythmic templates on which short motifs, melodic phrases or groups of note-events take place

- you can work with groups of note events within the overall texture

- most parameters accept time-varying contours

- comes into its own when texture designs are matched to transformed sounds in order to create new (and sometimes serendipitous) sound complexes

- In brief, the Texture programs **combine aspects of mixing, sequencing, granulation and collage**. You can shape and reshape your textures quickly by making use of the Preset or Patch facilities in the GUIs. Interesting and endlessly varied textures can be created in a way that is much faster and more flexible than normal mixing or sequencing.

Contents of the Texture Workshop

- The Texture Workshop has a comprehensive **Manual** in HTML. This includes sections on setting up your working environment, a detailed explanation of the 21 examples, and a Playlist. Working from the Playist is the easiest way to use the Workshop: you can play an example, and then, from the Playlist, link back to the files that created it and explanatory text.

- The 21 **worked examples** illustrate the various possible textures in several groups:

  - focus on one pitch

  - work within a pitch range

  - use Harmonic Fields or Sets

  - make use of additional time-varying options

  - attach motifs or ornaments to a pre-defined tune or rhythm

  The examples form a 5 x 4 grid plus one final example. If you go across the columns, you see how different programs can handle that group, e.g., 'focus on one pitch'. If you go down the columns, you explore how (mostly) the same program can handle the different groups.

- All the settings that make the examples are saved as **Presets** (*Soundshaper*) and **Patches** (*Sound Loom*). You can load these, alter the parameters and begin to explore the possibilities for yourself.

- The following summarises the **range of information** provided in the Workshop. Number 1 is a 'note data file', the primary input to the Texture routines.

```
1. 60 (reference pitch)
   #10 (Motif will be defined in 10 lines)
```

```
0.00 1 60 80 0.5 (StartTime, Instrument, Pitch, Amp, Dur)
0.25 1 62 60 0.5 (Note that the duration field can cause
0.50 1 63 50 1.0  overlaps with the next start time, i.e.,
1.50 1 65 70 0.5  legato-type effects.)
2.00 1 63 80 0.5
2.25 1 65 80 0.5
2.50 1 67 80 1.0
3.25 1 70 90 0.5
3.50 1 69 80 0.5
3.75 1 67 70 0.5
```

(The above Motif shown in musical notation:)

2. All note data and breakpoint files used for the examples

3. Play lists with input and output soundfiles and all parameter data,

4. Play list for comparative listening for all examples

5. Batch files for quickly realising altered versions of groups of files (e.g., with different input)

6. A *SoundShaper* Presets data file or set of *Sound Loom* Patches so you can load the parameter data for a specific example and ring some changes on it

About the CDP Transposition, Shifting & Combinations Programs

The CDP software has a variety of programs that alter pitch/frequency.

o MODIFY SPEED is the basic time-domain program for raising and lowering the pitch of a sound, creating glissandos, acceleration and deceleration.

o The DISTORT routines have two programs, HARMONIC and MULTIPLY that change and overlay transpositions.

o Basic pitch alteration in the spectral domain is handled by OCTMOVE and TRANSP in the PITCH Group, PCHSHIFT and TRANSPOSE in the REPITCH Group. The latter has a 'preserve formants' option (TRANSPOSEF), with utilities to GET and PUT formants separately.

o STRANGE SHIFT squeezes or expands frequency relationships, thus creating inharmonic frequency complexes.

o HILITE BAND enables you to work with specific bands within the frequency range of a sound.

o REPITCH GETPITCH extracts the pitch trace (up and down pitch movement) of a sound, creating a binary pitch data file (.frq). Other repitch functions can process this pitch trace, such as exaggerating its contour or transposing it. The REPITCH COMBINE functions then enable you to combine pitch traces in various (complex) ways, thus creating various unique relationships between sounds.

Contents of the Transposition, Shifting & Combinations Workshop

A considerable amount of background and experience is useful in order to get the most out of all these programs. The *Transposition, Shifting & Combinations* Workshop is designed to provide this information and auditory experience. It therefore includes

- A general introduction to the Workshop and setting up a working environment.

- Explanations of the key technical terms involved, in Question and Answer format.

- A section on formant extraction, with a comparative listening table.

- An overview of the different types of processing function, along with an inputs and outputs chart for the REPITCH programs.

- Six more 'Listen & Compare' sections for the various types of transposition, frequency shift and combinations of pitch trace files.

- The Workshop also contains batch files for running the routines that created the examples, using your own sounds as inputs. The batch files can of course also be altered. This Workshop does not have Presets or Patches.

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