

La durée

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1 PROGRAM NOTES

La durée explores different notions and spans of time, from the instantaneous to the eternal. Using high-resolution real-time spectral analysis and a hybrid control interface combining live coding with an array of precise rotary encoders, an expansive palette of acoustic material drawn from the history of recorded music is frozen in time, exploded, dilated, blurred and sliced.

2 PROJECT DESCRIPTION

Chronological clock-time is markedly distinct from the lived sensation of time, and our perception of temporality can be reshaped through musical experience. In a psychological meta-study, Schäfer et al [5] observe that:

“Our representation of space and time is alterable and malleable... [a] product of conscious and unconscious processing, affected by perceptions, memories, moods and emotions, our interests and current goals, and our physiological condition... Music is known to alter people’s ordinary experience of space and time. Not only does this challenge the concept of invariant space and time tacitly assumed in psychology but it may also help us understand how music works and how music can be understood as an embodied experience.”

Mark Fell describes music as “a technology for constructing an experience of time” [2]. Similarly, David Clarke observes that, through repetition and recall, music can “radically expands the temporal depth of field” [1]. This performance seeks to build on these concepts by constructing musical fragments and patterns that embody these temporal frameworks: “moving horizons” that flow through the present moment [3], shifting between an “ordinary-linear” model of clock time to a “patterned-cyclical” model of internal, irregular and discontinuous time [6].

La durée draws on a vast corpus of acoustic material, created using music information retrieval and machine learning to segment and classify an archive of recorded material of compositions spanning multiple centuries. The latent space of this corpus is navigated in real-time across multiple dimensions, including temporal, tonal and timbral qualities. Real-time sampling and processing of micro-fragments is performed to

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modify and warp temporal structures, extending moments out for long durations, reducing movements into milliseconds, and smearing phase relationships to blur the present moment in time.

In a spatial environment, the work also draws on Nye Parry’s notion of “exploded sound” [4], decomposing its spectral content into its individual partials that are dynamically diffused and spatialised, allowing the listener to inhabit the inner structure of the sound.

The performance is primarily based upon the *SignalFlow* library for Python, a free and open-source DSP framework that is growing in maturity and offers new possibilities for flexible prototyping and creation of new musical instruments. Interactive notebooks are used to perform the analysis and sequencing, with a high-resolution rotary encoder array used to precisely navigate temporal parameters. Flexible, continuous timelines and temporal warping are used to realise the non-linear time concepts. If a spatial playback system is available, this will be utilised to explode and distribute the harmonic partials across the listening field, moving around the listener in 3-dimensional parallax.

3 PERFORMANCE NOTES

- **Duration:** 10-15 minutes.
- **Requirements:**
 - A well-treated concert performance environment, in low light
 - A spatial sound system would be ideal, but a stereo system in a good listening environment would be sufficient

4 ETHICAL STANDARDS

Development of this performance has been self-funded and self-conducted, with no potential conflicts of interest. Elements of the libraries used in the performance were developed as part of projects funded by Arts Council England, the PRS Foundation, and Science Gallery Melbourne.

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