Re-scaling Beethoven: the very long and the very short

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Sound recording technologies have been around for more than a hundred and forty years. Composers have imagined and indeed created very long works – lasting days, years, or even with infinite duration – and conversely, very short works – second-long miniatures that metaphorically encapsulate huge corpuses of music. Comparing two works, Leif Inge's 9 Beet Stretch (2002) and Johannes Kreidler's Compression Sound Art (2009), this paper reflects upon idea-based sonic art of extreme time durations: opposite points on a dimension of time scales from very long to very short, extending Stockhausen's 'unified time structure'. For long works, we posit that the perceptually defining characteristics are slowness, repetition, and continuity. For short works, it is recognizability and specificity that are most important. With this in mind, we argue that what connects the works by Inge and Kreidler is the overarching concept of iconicity, as enabled by technologies of appropriation.

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Schafer advanced that the 'soundscape of the world' is a "macrocosmic musical composition" (Schafer 1977, p. 5). Ever since there was a listener – a soundscape consists of events heard – the world soundscape has been playing: here, there, and everywhere. It is the longest piece that could ever exist, it is continuous, and it exists currently.

Before the advent of sound recording and playback technologies, specific music pieces were listened to deliberately and created purposefully. If someone wanted music for their wedding, they hired a fiddler. Today, music is available 24/7, for example via the Internet, or by moving in public spaces in a city. Where there is commercial activity, such as retail shops or restaurants, we are dealing with a servicescape (Bitner 1992), constructed partially by sonic design elements such as moozak (Truax 1999). With globalized reproduction technology and content, the soundscapes between remote areas approach similitude: regardless of whether you are shopping in Myeong-dong, at Marina Bay Sands, or at the Montbéliard Christmas market.

The sonic character of the cityscape, fueled as it is by commercialism, has been likened to torture techniques reported from "military bases... hidden around the globe where 24/7 high-intensity lighting and loud amplified music are the conditions of an excruciating reality of enhanced interrogation" (Cusick 2008), and an outcome of “the expanding, nonstop life-world of 'late capitalism'” (Crary 2013).

Technology offers the possibility of a continuous and weakly articulated acoustic environment, with components that are essentially ubiquitous and metabolic (Amphoux 1995); that is, undefinable in space and time, respectively. As we have no earlids, the continuous stimulation of eardrums and rest of the body massages us completely (McLuhan 1968).

In response to the forces of homogenization, many people seek to personalize their sonic experience using earbuds and mobile devices. Thus equipped, the soundcape they perceive is an 'extended reality', or 'hybrid reality' in that it merges multiple audio streams, such as external city noises and signals, spoken communication, and music from a playlist – perhaps sharing one of the two earbuds with a friend. If the soundscape of the world is semi-designed (Lindborg 2015), does this level of agency qualify the listener-consumer as a co-composer of a macrocosmic work of music?

Unified time structuring of music

Karlheinz Stockhausen introduced a "basic concept of a single, unified musical time; conceptual categories, such as color, harmony and rhythm, dynamics, and "form," must be regarded as corresponding to the different components of this unified time..." (Stockhausen & Barkin 1962, p. 42)

Measurements of duration are more intuitive to us when expressed on a logarithmic scale. Pitch, rhythm, phrase,
form, Stockhausen claimed, are connected through the concept of periodicity. We are used to thinking of pitches in different octaves, but the duration of pieces, Stockhausen said, can also be expressed in terms of octaves. Specifically, the longer periodicities that lend form to whole pieces, vary "according to the fixed perspective of our tradition... between dimensions of around one minute and ninety minutes. This corresponds to 1, 2, 4, 8, 16, 32, 64, 128 – a range of seven octaves". (Stockhausen 1971).

Most fundamentally, the natural continuum of sound depends on physical intensity; "the listening dimensions timbre, pitch height, pulse and movement are different temporal sub-areas, segregated from the total energy spectrum of the physical intensity continuum by the processes of auditory perception." (Christensen 1996).

The unified time structuring of periodicities can be significantly expanded well beyond what is humanly perceivable (Roads 2001, p. 3-6). All acoustic phenomena are integrated, from infinitely long (and old) waves of movement, to infinitesimally short (and fast-lived) vibrations that approach the theoretical limits of our current understanding of time and space.

This paper reflects upon two pieces of music and what connects them. One is very long: 9 Beet Stretch by Leif Inge (2002); and the other very short: the 'Complete Beethoven Symphonies' moment in Johannes Kreidler's Compression Sound Art (2009).

Long

Continuity

Any process that is long enough tends to be perceptually broken down into segments. While the sense of hearing is active '24/7' and in the unborn foetus, there are psychological constraints to our listening attention – sooner or later, the mind wanders – and a biological limit to staying awake. We cannot listen while we sleep.

"The perspective of ubiquity and metabole give rise to the question of how sound events emerge in the mind of a listener, and how the perception of single events relate to the perception of the soundscape as a whole." (Lindborg 2015). The question that needs to be addressed in the present context of long compositions is this: When is a piece of music one? What allows an acoustic stream to be perceived as a single sound event, as a continuous, self-contained, and integral entity. We must agree that it is not immediately dependent on duration; an extended sonic experience may be perceived as unitary. But musical

fabric is fragile. The perception of continuity is torn by the passing of time. When does perceived one-ness break down, and the event transforms in the listening mind into a loosely connected series or grouping?

At the timescale of the very short (and despite the trained efforts of reduced listening) there appears to be a frontline where a phase transition inevitably happens, when a sound event fractures into a complex sound object, such as a mixture (Schaeffer 1966; Roads 2001 p. 18-20). The same perceptual phenomenon is at play also at longer timescales, such as in Moment-form (Stockhausen 1962).

Slowness

Repetition

Short

Specificity

Johannes Kreidler has made experiments with time compression, proposing a 'near-vertical music'. One is the "Complete Beethoven symphonies, played in one second" (2009). At the very end of the second, we might hear the distinct sound of voices, coming from the 9th symphony.

Kreidler states that in the change in temporal scale “form becomes a detail” and that “the ideal of compression is, on the one hand, to save all important information, on the other hand, to reduce it to a handy size.”

Recognisability

Iconicity

After having considered, albeit briefly, the essential aspects of long and short music, I will make three claims. Firstly, that Leif Inge's 9 Beet Stretch is not a piece of "24/7" music, as has been claimed. regards continuity, repetition, and identity. Secondly, that Kreidler's Compression Sound Art, specifically the 'Beethoven symphonies compression', deals not with compression but with lossy compression – an important distinction. Thirdly, listening to these works, as well as to other works of extreme duration (whether short or long) depends to a large extent on the cultural status of the source material. Since they are derivative works of art, i.e. interpretations or re-arrangements of existing audio recordings, a discussion of appropriation is key to understanding their respective contributions to music.
When we listen to “9 Beet Stretch”, we listen to three things at once: Beethoven, as a cultural artefact, in the semantic listening mode, the sounds themselves, in the reduced listening mode, and audio stretching, in and of itself, in the causal listening mode. This triple-layered listening experience is entirely enabled by computer technology, since it is physically impossible to produce the piece using purely acoustic instruments.

The listener is drawn into the materiality of the orchestra and the voice - an imagined reality of the trace of something that did exist. “the piece constantly pushes us away toward a timeless sonic flux, ‘sounds in themselves’ that we may experience variously as sublime, ambient, boring, annoying.” (Dittrich 2917)

Repetition

Lossy compression

Appropriation

Kreidler and Inge work with existing recordings and transform them into something else. This kind of activity is at the basis of creativity, yet it is relatively recently that a growing awareness of the technical, psychological, and societal, beyond economic, consequences of appropriation of audio recordings.

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