SILICA

FOR PIANO

DEDICATED TO NICOLAS HORVATH (2013)

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Notes

Theme and title

Silica (2013), for solo piano was in homage of Philip Glass and dedicated to Nicolas Horvath, who gave its premiere in his wondrous project - "the Glass Marathon" in Paris, 2014.

The name of Philip Glass reminds me of not only the composer's signature music, but also something scientific. And that not only refers to the famous opera featuring Einstein or the symphony of plutonium or the soundtrack for sci-fi movies. Glass is literally a kind of material that can be found in all kinds of applications ranging from fancy decorations at home to ultrastrong shields on battlefields. There are various types of glass but all of them share the major component: silicon oxide, or *silica*. Being one of the most stable and the most abundant compounds, silica has amazing properties and is actually very complex. It has many distinct crystal structures (polymorphs) though the chemical components are the same and the metamorphism has been a hot topic in physics community.

Enough for the science. I had been conceiving a musical description of these interesting aspects for a long time. The result is this composition commissioned by Nicolas for this special project. The music is based on one hexatone pitch class set 6-9 [012357], which sounds somewhat oriental. It starts from a highly condensed phase in the middle of the piano register and spreads out, as if being heated up and melting, to the entire keyboard. The underlying motifs are the trying-to-be-lyrical lines in three voices: the emphasized notes (white notes, see **Instructions**), the top and the bottom. Although the pitch class is by no means a consonant hexachord, the "lyrical" voices follow classical harmony progressions characterized by fourths and fifths and chromatic steps, however, in a weakly correlated pattern. A pitch set is presented vertically in one bar and horizontally in every six bars as a cycle, in which each element of the pitch set has been emphasized. To make wanted progressions possible, the original set needs to be manipulated at times, thus creating new tones while retaining the tonal structure (the same class 6-9). After six cycles, all of the six sets in the first cycle are transformed and thereby all twelve base positions of the pitch class have been exhausted. The metamorphosis of the music elements is metaphorical of that of silica and the cycles hint the different phases of the crystal.

Instructions for performance

Tempo mark: X"/Y

X is the duration of each bar in seconds. Y is the number of single notes/chords played in one second. Y determines the initial tempo of a bar, however, tempo may smoothly change within the bar or through the next bar, **only** at the presence of *rit.* or *accel.* These marks modulate the tempo of the notes but not the duration of the bar. Their positions in the bar proportionally indicate when the modulation begins. Without these marks, tempo change is abrupt if Y has a new value for the next bar.

Notations

In each bar there are multiple black notes (stemless crotchets) but only one white note (semibreve).

Within each bar, all black notes are played sequentially with **even** rhythms (tempo specified by Y in tempo mark), except for in-bar tempo changes specified in the score and the final bar (see text in the score). The sequential order of the black notes is decided at the performer's freedom with the following rules. The highest and the lowest notes are played **only** once. The other black notes can be repeated for arbitrary times, but each note should be played at least once. The overall sounding is like a random-order-arpeggio texture. The rhythmic black notes should keep playing until the end of the bar (duration specified by X" in tempo mark) and not be affected by the appearance of the white note. There are no additional rests. Generally, the black notes are played as single notes in sequence but sometimes chords can be played instead (obeying same rules of tempi and dynamics) with the following restrictions. A chord can be an arbitrary combination of notes that are written in the bar on any **single** stave. In other words, it is acceptable to play multiple notes from a single stave simultaneously while it is **not** acceptable to play notes on different staves simultaneously. It is suggested that chords should make up **no** more than 30% of all sounds in each bar.

The white note is played **only** once during the bar and it must appear within the **first** second of the bar. It is also the dynamically emphasized note in the bar (see <u>Dynamics</u>) and it does **not** interfere the rhythm of black notes.

Dynamics

The dynamic expressions suggest the overall dynamical mood of the related bar(s). It does **not** mean that every single note in the bar needs to be played at a strictly equal dynamic level. In fact, it tells the average dynamic of the black notes. As an exception, the white note must be emphasized by the hardest attack in the bar. For example, a "forte" sign means that the black notes can be played in a small dynamical range centering "forte" and the white note needs to be played discernibly louder than the black notes (e.g. fortissimo, but still softer than the white notes in bars with "fortissimo" or higher dynamic marks). Dynamic changes are abrupt unless marked with the hairpins.

Other issues

The right pedal is pressed at the beginning of each bar, held during the bar and released at the end of the bar. Press fully down for "**mp**" or lower dynamics and ½ down for "**mf**" or higher dynamics, such that the notes are neither dry nor blurred.

The left pedal is allowed for assistance to very low dynamics.

Extreme ledger notes are labeled with tone names on the right to facilitate sight-reading.

An accidental only applies to the immediate note.

 $\frac{1}{6}$ / $\frac{2}{1}$ The actual notes on these staves are one octave higher/lower than with regular clefs.

An example is shown in the figure. To the left of the double bar line is the notation and to the right is a possible way to play it.



Silica for solo piano



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