

Street Sonatas

(version: October 2019)

#1 - #2

Hans Roels

Street Sonatas - General Remarks

[OBJ] Each sonata is played upon a street object. These are *resonant, (partly hollow) metal structures*, such as public benches, fences, parts of bridges, banisters, hand rails, play structures for children, etc. These street objects need to have a perceivable pitch, by beating with a percussion mallet on a part or sublocation of the street object. Soundwise, the best choice is a street object with a rich and diverse sound: it has a clear pitch and additional, more noisy or inharmonic timbres on other sublocations of the street object. In general though, objects which are *totally* noisy or inharmonic are not the main instruments in the Street Sonatas.

[FIX] At least one street object – of the two players – in the sonatas has a *fixed location*: it is physically tied to a place. As a performer you cannot bring the instrument to the performance place, you have to adapt your performance way, style, presence,.. to this object and the environment. Thus, the choice of a street object and the related location are crucial for a performance. Some Street Sonatas require a specific location, environment or situation, as mentioned in the individual scores of the sonatas.

[PHY] Although the sound of the street objects is amplified, processed and transformed through live electronics in the Street Sonatas, it is important to remain faithful to the physical (sound and performance) properties of the chosen street objects. Some kind of direct link between sublocations on the street object, performance gestures or percussion mallets on the one hand and the produced sound should be perceivable by the audience. Thus, the objects, location – situation and environment – are central to a Street Sonatas performance. A thorough exploration of the peculiarities and sound possibilities of the street objects is necessary to achieve this mixture of physical and technological music instrument.

[DUR] The duration and form of most Street Sonatas are variable and adaptable, allowing the performers to create a specific sequence of sonatas to fit the chosen performance location, street objects and situation. Some sonatas may work better at one location/street object than at another one.

[SET] The basic set-up for the Street Sonatas is the following: a contact mic is attached to the street object; this is connected to a laptop with sound card and a Pure Data patch; the output of the soundcard goes to a speaker. This set-up is doubled for each performer. It is practical – and enlarges the range of possible street objects and performance locations – if the whole set-up is battery-powered. The basic technique used in the Pure Data patch is pitch-shifting the input from the contact mic.

[PRF] The basic *performance technique* for the Street Sonatas is the following: play the street object by beating or hitting it with a percussion mallet or stick with one hand and press the piano keys on a keyboard controller with the other. The keys control the amount of pitch-shifting applied to the contact mic input. Pressing the keys happens *just before* beating the street object, otherwise you create an ornamented note – a kind of legato bend/slide to the new pitch –. It requires exercise to use this technique when playing fast notes.

[PIT] Before a performance you should assure that the two street objects – for each performer – are tuned to a common pitch. Because street objects can have many shapes and sublocations with different noisy, pitched or inharmonic sounds, it is a good idea to follow a procedure: fix the position for the contact mics on both objects, use one type of percussion stick/mallet and search for one spot on the street objects with a clear pitch, not more than one octave away from the main pitch of the other object.

[TUN] For each performance with specific street objects and locations, the performers need to create tuning systems and pitch modes based on a preparatory study of these street object. The tunings and modes are mainly based on the spectrum and pitches – at different sublocations – of one or both street objects. The aim of these tunings is to link or even merge the sound of both street objects. Therefore, the scores in music notation of the individual Street Sonatas are to be read as keyboard tablaturas. For each performance or even Street Sonata another tuning system and pitch mode may be created. This will requires some adaptation of the Pure Data patches.

[MIX] These are additional techniques to create sound mixtures of two street objects, they may applied in specific Street Sonatas. First, you can change the amount of reverb. Add reverb in the Pure Data patch to a dry sounding object or diminish the reverb by attaching rubber, clothes, etc. near to the contact mic and dampening the very long reverb of an object. Two, you can change the harmonics and pitches in a sound, by adding synthesized pitched sounds or filtering out specific frequency bands. For example, if street object 1 always has an inharmonic extra pitch, sounding 6.13 semitones higher than the basic pitch, you can add a soft sine wave also 6.13 semitones higher – or perhaps an octave higher or lower – to the sound of object 2. Another example: you can add a set of high pitches to (some pitches of) object 1 and (some pitches of) object 2. Even though these high pitches may not have been part of the original sound of object 1 and 2, the new amplified, processed sound will create a link between both objects.

Street Sonata #1 “Intermissions”

2019

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Create a performance with sections of the three melodies and intermezzi. Play them or the separate phrases – indicated with a) b) c) – in any order with any number of repetitions. In general, the melodies form the foreground, the intermezzi sound in the background and occasionally interrupt or take over the melodies. Create a performance structure with a variable duration from less than two to ten minutes or more.

Create a tuning system and pitch modes based on a study of the street object. Adapt the scores of the melodies and intermezzi to these modi. Thus, the pitches in the scores of the three melodies and intermezzi are to be read as a (keyboard) tablatura. → *see General Remarks* [PIT] [TUN]

Three melodies:

- These have a clear pitch and presence, in the foreground.
- Use a very flexible timing and parlando rhythm. Create a flow of accelerating and slowing down phrases, freely based on the music score (one system is approx. 20 seconds).
- Accelerandi, ritardandi – or combinations – on the same note or a short motive may be added to the main melody.
- Major changes of timbre, location (on the street object), mallets or performance techniques happen at the beginning of a phrase.
- Minor location/timbre changes may be used as ornaments of the main melody timbre.
- The notes of the chords are divided through the two players.

Intermezzi:

- These have one clear, continuous rhythmic pulse, independent from the 'parlando' tempo of the melodies.
- These have continuous, gradual changes of timbre/location (on the street object), dynamic curves, etc.
- One may choose to vary the phrasing of the motives (for example, beat with one hand on the street object for each eight note – played with the other hand on the keyboard controller – or hit once on the object for every two notes).

The previous lists are *general* features, feel free to create exceptions and ornaments. Take care that the character of this sonata remains simple: whatever happens, the melody remains in the foreground, and – despite interruptions, diversions and independent backgrounds – connected to previous melody fragments.

Three Melodies

A

a) $\overset{>}{\flat} G_4$ b) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

c) $\flat G_4$ d) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

f) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$ g) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

B

a) $\overset{>}{\flat} G_4$ b) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

d) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$ f) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

g) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

C

a) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$ c) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$ $\overset{>}$

d) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$ e) $\flat G_4$ $\frac{1}{8} G_4$ $\frac{1}{8} A_4$

Intermezzi

1a

1b

2

3

4

Pitch modes (in Three Melodies)

A

B

C

combined

A B C

Exercises for Street Sonata #1

1) Search for places in the melodies to create phrases with overarching accelerandi or ritardandi. For example, in melody B accelerate from phrase b) – start in a slow tempo – until the end of phrase c) and keep on (fast) repeating the last note G at the end of c) to continue the accelerando.

2) Start playing the melody and find three or four 'timbres' which ensure that you have a melody with a clear presence in the foreground. 'Timbres' are combinations of mallets, locations on the street object and pitch shifts: for example, playing the melody with a hard, rubber mallet at the left side of the object and a pitch-shift of one octave lower creates a full sounding melody.

Next, find a few 'timbres' which work well for the intermezzi in the background. These may be locations with more enharmonic, noisier or other spectra, played with softer mallets. Gradually move along the object while playing and explore gradual timbre transformations or dynamic curves (crescendi, diminuendi, etc.).

Combine the timbres of the melodies and intermezzi: first, agree on who will play the melodies and who the intermezzi (if one object sounds significantly louder and/or more pitch-based than the other, this loud object is the obvious choice for the melodies). Second, start by using a simple form: for example, repeat melody A three times, the intermezzi start at the end of the first A and before the last 'repetition' of A there is a longer intermezzo by both players.

Once this simple form is working, start adding variations and make the structure more complex.

Street Sonata #2 “Sine Patterns”

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This sonata requires a specific Pd patch. In general, this patch analyses the pitch and spectrum of the input contact microphone. There are three main controllers – apart from the usual keyboard for the pitch-shifting –: 1) MIC: switch the amplified, pitch-shifted sound of the contact microphone on or off; 2) SINE: switch on the sine waves following the pitch and amplitude of the detected harmonics; 3) FREEZE: switch on the spectrum detection and send the pitches to continuous, sustained sine waves; the loudness of these sines is controlled by a fader in the Pd patch.

Choose or create a tuning system and pitch mode that fit the street objects, situation or environment → *General Remarks* [PIT] [TUN]

Beating with various mallets and sticks creates a regular pulse throughout this sonata, although not necessarily at every moment. Create patterns based on this pulse and the following features:

- switching MIC, SINE and FREEZE on or off and using combinations of these controllers in the performance
- subtly changing the timbre/spot on the street object (for example, during long patterns)
- creating patterns with the dynamics (for example, a crescendo in the performed, beaten notes or in the sustained sine waves)
- making short pitch motives with the keyboard
- playing with the amplitude threshold of the beat and frequency detection (for example, play very soft 'undetected' notes)
- distributing/spatializing patterns between the two players, as a hoquetus effect.

Mould the daily, 'non-musical' street object and the often unpredictable pitch detections into (temporary) patterns.