


Travertine Hybrid #2
for solo cello

Louis Goldford (2013)

Travertine Hybrid #2 advances my curiosity of analysis / resynthesis techniques; what began as a single piece for viola is now effectively a series of studies for string instruments. As in *Travertine Hybrid #1*, this latest piece takes samples I made in 2011 of travertine limestone (found throughout the campus of the Getty Center in Los Angeles) and cross-synthesizes them with the spectrum of an instrument. This time, it is a spectrum based on the cello's low G_2 . A gradual sieving between the pure sound of the cello towards the pure sound of the rock is fashioned in Max/MSP, and from that a series of six chords are derived as a separate analysis of this morphing of one sound into another. These chords are then treated as "harmonic reservoirs" in the composition, as I had previously done in the viola piece. However, unlike *Travertine Hybrid #1* this work incorporates many different approaches to notated noise, and its form is partly determined by gesture, an auditory depiction of my hand moving the manuscript on a scanner bed to obfuscate portions of the initial draft. This was inspired from my recent work with Arduino-based sensors. *Travertine Hybrid #2* is also more rapid in character and more abbreviated in form than *#1*, and therefore sets itself apart from a majority of "spectral" compositions characterized by a gradual change over a longer period of time.

Louis Goldford
February 2013

fixed elements of the notation :::

---  --- All of the activity underneath the bracket to occur over the indicated amount of time (in seconds).



4-string arpeggio below the bridge (sub ponticello). Always executed as a downbow (despite the occasional courtesy downbow marking), and always from bottom to top (C-G-D-A strings); never A-D-G-C.



Bow a single string below the bridge (sub ponticello). Usually executed as a sharp upbow.



Double stop below the bridge (sub ponticello) on any two strings. No bowing indications.



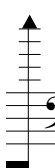
Arco or col legno (depending on the indication) on or over the bridge itself at an angle.



A finger of the left hand taps the sounding board to produce a sharp, percussive effect. Fast rebound.



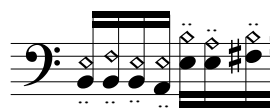
Strike all 4 strings at once with the palm of the left hand on the fingerboard. Fast rebound to let strings resonate.



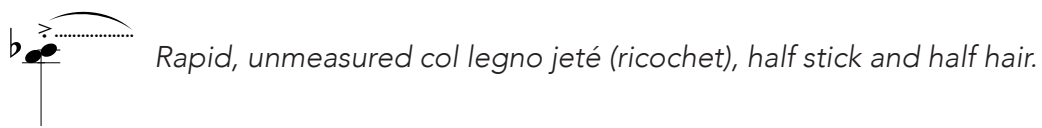
Short, sharp bowing of the highest possible audible note of indefinite pitch.



Tremolos indicated this way are fast and unmeasured.



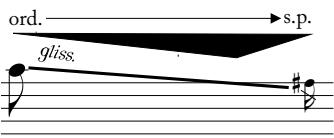
Brush bowing: bow vertically, once down and once up, along the string for each of the harmonics notated; a movement from tasto to ponticello and back again. This produces noise along with the sound of the definite pitch.



similie, accelerando.....



Repeat the previous pattern, building in dynamics & acceleration.



While executing the notated glissando, gradually add more bow pressure as the line above thickens, then gradually release the pressure as it thins. Also, move the bow gradually to sul ponticello.

- s.p. sul ponticello
- ord. ordinato
- l. batt. col legno battuto

improvisatory elements of the notation :::

The following indications for the graphical portions of the score are only suggestions; the composer grants the performer freedom to interpret these graphical gestures as s/he pleases, so long as they are executed with care, nuance, and especially preserving the forward momentum and general character of the piece.

The corresponding music has been partitioned into 4 "phrases" containing different kinds of graphical gestures:

- ① The music dissolves into a waveform / spectrogram. One possible interpretation of this image might be a rapid, back-and-forth bowing on pitches that fluctuate between different registers, with attention on higher harmonics. As a spectrogram, range of pitch should be considered according to the denser, darker areas.
- ② The notation should be executed where legible, but is frequently interrupted by possible scratching or tremolo sounds. The change of direction and verticality of the staff may be interpreted as time stretching within the framework of the bracketted 10 seconds.
- ③ Combines elements of the first two graphical structures. As the staff moves upward the notes are still mostly legible and should be somewhat preserved in the interpretation.
- ④ Even more use of a third-dimensional aspect of the sound. Again, time-stretching is implied by the falling staff but could also be executed as changing pitch or register. If pitch is to be considered, slight variations in notated pitch (within the octave, as normally perceived in any clef situation) is discouraged; larger ranges of pitch and extreme registers should be envisaged. In all 4 of these graphical structures, other parameters are also possible (think of movement between tasto and ponticello or other various timbres; vertical thresholds that connote a switch between legno battuto and arco; vibrato or tremelo frequency and wideness, etc. The cellist is asked to think as abstractly as possible about what can be represented by these notations.

Travertine Hybrid #2

for solo cello

Louis GOLDFORD (2013)

Frantic Scratching

The score is divided into four systems, each with a time signature in a box above the staff:

- System 1:** Starts with a 13" time signature. The music is in bass clef. It begins with a *ff* dynamic, followed by *f sub.* and ends with *fff*. Performance techniques include *l. batt.*, *arco*, and *similie, accelerando*. A large blacked-out section is present.
- System 2:** Starts with a 2" time signature and ends with a 9" time signature. Dynamics range from *mp* to *f sub.* and *mf*. Techniques include *s.p.*, *ord.*, *l. batt.*, and *arco s.p.*.
- System 3:** Starts with a 9" time signature. It features a dense, chaotic texture of vertical lines, likely representing 'scratching'. It begins with a circled 1 and ends with a circled 2. Dynamics include *mp* and *s.p.*. Techniques include *l. batt.* and *s.p.*.
- System 4:** Starts with a 10" time signature. It begins with a circled 2 and a *(mp)* dynamic. It includes a *pizz* (pizzicato) section with a *sfz* dynamic. The piece concludes with a circled 2.