

Just Ancient Loops **Program Notes by the composer, Michael Harrison**

Just Ancient Loops was composed for Maya Beiser and dedicated to her. The work can be described as an “Orchestra of Cellos,” as it gradually builds up to a climax of 22 independent pre-recorded cello parts. It is the sequel to my 75-minute work for re-tuned piano, *Revelation: Music in Pure Intonation*, in that it is a large, complex work devoted to exploring the enormous range and sonic possibilities of a single instrument played in pure intonation. Composed between 2007 and 2011, including approximately 3 weeks in the recording studio between December 2010 and October 2011 recording and mixing the tracks with Grammy award winning producer Adam Abeshouse, *Just Ancient Loops* is the largest and most complex work that has been written for Maya Beiser, and perhaps the largest and most expensive production ever made for solo cello. The work is in three interconnected movements and is 25 minutes in duration. Each cello part was record by Maya, and in performance Maya plays the lead part supported and surrounded by all of the other pre-recorded parts.

The title refers to 3 different aspects of the work. The word “Just” refers to the fact that the work is composed using an original variant of the ancient tuning system known as „just intonation,” or pure tuning, which is the universal foundation for harmony as constructed from musical intervals of perfect mathematical proportions. Pythagoras and other ancient Greek philosophers and mathematicians discovered that musical harmonies arise from mathematical relationships based on whole numbers. The most consonant harmonies are created when two membranes vibrate in simple musical proportions, for example, the two notes comprising an octave have a 2:1 relationship, where the higher note is vibrating exactly twice as fast as the lower note. A perfect fifth is a 3:2 relationship, a perfect fourth is 4:3, and a pure major third is 5:4, and so on. Every different whole number ratio corresponds to a different musical interval. Because there are an infinite number of whole number ratios there are also infinite matrixes of tones waiting to be explored. Just intonation is the basis for the lost music of ancient Greece, as well as many other cultures, including those of India, Persia, China, and Japan. Just intonation is also vital to the 'a cappella' music of the West, from Gregorian chant and renaissance polyphony, to 'barbershop' harmonies. Over the centuries the purity of these natural musical proportions was gradually compromised (tempered) to facilitate chord changes and modulation between various key relationships. This culminated in a tuning, called equal temperament, which has become the standard for the piano and most Western fixed pitch instruments, and which is abandoned in this work in favor of pure “un-tempered” intonation.

“Ancient” refers to various ancient factors that are used, as well as the overall tone of the work. In addition to the tuning system, this includes the use of modality, polyphony and canons throughout, especially the polyphonic style of counterpoint used in the second, slow section of the work, which is reminiscent of sacred vocal music of the Renaissance. In order to help differentiate between the many independent lines of music, I use modal counterpoint, more in this work than in any work that I have

composed to date. There are also elements that are drawn from ancient forms of N. Indian classical music, including the 16 beat rhythmic cycle, and Indian and Persian styles of ornamentation.

“Loops” refers to the modular and “minimalist” aspects of the work. In its original conception all of the modules were to be played live and repeated with a looping device and foot pedals, a technique that was originally developed by electric guitarists, and in which Maya specializes. However as the work grew in complexity and proportions this concept was abandoned in favor of the freedom of composition and performance resulting from the ability to pre-record all of the independent parts. In the end, the work was composed to be realized in the recording studio, and subsequently brought to life in live performance. Nonetheless, the work uses about 20 modules which are repeated in numerous variations and which form the core and foundation of the work.

In addition, the recording studio is used to achieve results that would be practically impossible in live performance, such as melodies played using natural harmonics extending far beyond the fingerboard, precise intonation played without vibrato up in the ledger lines of the treble clef (usually the exclusive realm of the violin), precise and percussive “col legno” rhythmic patterns played with a pencil instead of the wood of the bow, and applying the reverberations from various acoustical environments (including an abandoned Japanese mine), to different cello parts as only one aspect of a virtuoso sound mix that aims to bring all of the different parts into an idealized balance. The time was taken to record each of these parts to perfection, extending the boundaries and normal capacities of the cello.

I am extremely grateful to Maya, and our producer Adam Abeshouse, without whom this project would never have been realized in this way.