

A note on harmonics, instrumentation, and how to listen:

An essential aspect of this work is the exposure of unique frequencies that exist above and below the notes that are most present to us when listening. Microtonal compositions that have expansive rhythmic elements have very unique exposures of harmonics, but they are not always as easy to hear as minimally rhythmic / non-rhythmic music. The exception to this is La Monte Young's development of the concept of *clouds* in *The Well-Tuned Piano* (1964, 1973, 1981, present). These are clusters of harmonic chords that can be played quickly together to produce clearly audible and defined harmonic shapes. Michael Harrison also used these in his piano works, *Revelation* (2007) and *From Ancient Worlds* (1992).

Nonetheless, writing music for instruments that have a unique quality and responsibility to exist as drone instruments allows very few exceptions to continuous and clear productions of audible harmonics. For pumped, free-reed aerophones (like shruti boxes, harmoniums, reed organs), the only exceptions to clearly defined harmonics are in the rhythm of pumping air into the instrument, the changing of that rhythm when different amounts of valves are opened, and the amount of air pressure on the reeds (which can distort the tuning by +/- 0.5-3 cents). The selection of these instruments was specific to allow the harmonics to be clearly defined, and for them to emerge gently to the listener over time.

The clearest way to hear the harmonics of the work is to listen deeply, realizing that the primary sound that is coming to you is not the only one, but is made up of layers of many different sonic wavelengths - some of which are audible and inaudible to the human ear - that are working together to produce a whole. The harmonics specifically exist above and below the primary frequencies, therefore any high-pitched or unusually low-pitched tones are likely harmonics or difference tones produced by the pure relationships between notes. Oftentimes the harmonics that are present are not particularly clear until some time has passed on a long chord, and only then will they emerge to you, like a 'eureka' moment. These harmonics, whether they are identifiable to you or not, are only present due to the combination of two or more notes together. The composition includes these harmonic relationships, and without them, would be an entirely different experience.

Something beautiful I've found about experiencing harmonics is that they can teach us about the human experience, and about our own selves, in so many unique ways. The primary fascination I have with them rests in a popular idea that musical notes should be taken literally, that the first thing we hear in sound is all there is, and from that point on, we can execute a judgment about how we feel about it. But with music tuned specifically to enhance that which is beyond, we have the opportunity to tell ourselves (myself included) that what first meets our ears is only a fraction of what there is, and that there is a potentially infinite beyond of soundscapes that we can hear merely by spending enough time listening. Our brains have evolved to perceive sound in a certain way, one where much of our hearing is to identify the most clearly defined sound(s), and so when this pattern is broken or imperceptible, it can create new frequency movements and states of mind that can take us into different capacities of understanding. The primary form of meditation that I have studied is known as Vipassana, where the simple observance of the sensations of the physical body can reveal to us the nature and habits of our mind. In a similar way, so too can the practice of listening to harmonics reveal to us the state of our internal experience, whether we feel craving for more unique sounds and more time, or aversion to them and impatience. Neither state is correct or incorrect, but to be in an experience that offers multiple natural layers, I hope, can offer us a new kind of meditative practice that allows us to discover both the habit patterns of the mind through listening, and that gives us the chance to go deeper into our bodies, to actually feel the sensations as they are, and to leave with awareness, greater empathy, and greater compassion for all beings, living and otherwise.

Dreams of the Forty Whales
of the Harmonic Reed System

Performed by

Glacial Time Communion

*In memory of Yoshi Wada (1943-2021);
and in dedication to
Michael Harrison, La Monte Young,
and the sentient goliaths of our oceans;
may we learn from them to generate greater harmony,
compassion, and peace for each other, for our planet,
and for our spirits.*

October 2nd, 2021
4:00 pm

Battery John Brannon, Mortar Pit B
Fort Worden State Park
Port Townsend, Washington

About the work:

Katrina Wolfe - movement, choreography, handmade costume, handmade veils, voice
Joey Largent – 7-limit harmonium, voice, composition
Danielle Quenell - 7-limit shruti box, voice
Tae Kim - 17-limit shruti box, voice
Sasha Leon - 7-limit shruti box, voice

About the performers:

Joey Largent's work explores the relationships between sound, environment, and context, focusing on improvised music for dance and long-duration solo and ensemble compositions, often working with just intonation, feeling-based improvisation, timeless-based performance, and long, subtle tones that gradually unfold over time. Much of his performance and recording practices are created in or inspired by site-specific, isolated locations in nature. Joey's compositional style comes from studies in Southeastern European folk music, butoh, improvisation, microtonality, and North Indian classical music. Amongst others, he has studied with Rose Okada, Michael Harrison, Tatsuya Nakatani, Jung Hee Choi, and La Monte Young. Joey's work seeks to produce deep feeling and experience through sound-- one that is strongly immersive, sensitive, and relational to the experience of feeling full presence in an environment, attempting to offer the opportunity to explore the expansive qualities of place, self, and memory through listening alone.

Katrina Wolfe is a movement artist and visual artist, primarily focused on performing and teaching the technique of Motion Awareness (Ma), which she has developed by integrating her experience in Butoh with foundational aspects of Vipassana Meditation. After years of practicing figurative sculpture, Katrina's visual artwork has shifted to the creation of installations and costumes made from organic and recycled materials, which are a key element of her performances. The practice of Motion Awareness in site-specific, and especially remote, natural locations is an intrinsic part of Katrina's work, serving as a constant reminder that the human body is simply another aspect of nature. Her work seeks to offer both viewer and practitioner increased awareness of the universality of impermanence, resulting in the cultivation of intention, empathy, and compassion in all aspects of life.

Taehyung Kim (b.1988 Seoul) is a Korean-Canadian architectural designer and artist based in Seattle, WA. His practice is informed by various research mediums that investigate spatial experience and narratives of space through the lens of framing, embodiment, duration, and domesticity. Taehyung earned M.Arch and Honors B.Arch at the University of Waterloo School of Architecture in Canada and recently presented his research at the Dennis Tate Civita Fellowship Residency and Cornish College Incubator Residency. He is currently a designer at Graham Baba Architects.

Seattle-based photographer *Danielle Quenell* has spent twenty years surveying the boundless world of visual storytelling through still and moving images. Her work aims to transcend the specific moment of its creation and reveal the inconsistencies in our experiences of time and physical space. By embracing a range of antique technology and historic processes, and often working in discontinued film and paper stock, every image is an exercise in vertical time-- a celebration of deliberate slowness, decay and imperfection.

Sasha Leon is an architect and artist based in Seattle, WA. Her work is concerned with the mundane and is often ephemeral in form, utilizing the dust-like materials that fill everyday spaces all around us, yet go unnoticed--hair, pollen, insect limbs, cigarette butts, dirt, lint. Her installations and performances are exercises in vital superstition.

I first conceptualized *Dreams of the Forty Whales of the Harmonic Reed System* after a series of lessons in just intonation with Michael Harrison, a composer I've admired over the years for his just intonation piano work, and who also spent much time in his early years learning from La Monte Young, both as his tuning assistant for *The Well-Tuned Piano*, and also as his protégé, living in his loft and sitting next to him during every 5-7 hour performance of *The Well-Tuned Piano*. We are, in many ways, disconnected from the idea of lineages in our society, and while I have my critiques of it, I feel it really is so important to be able to find those who inspire us and to seek out knowledge from them directly in order to aid our own visions into truly manifesting. I realize that oftentimes, some of the knowledge we seek is intuitively already in us, and maybe even something we discover we can't get from our inspirations, or even from their students who carry that knowledge. It is a difficult, hard-to-parse situation, but meaningful, perhaps, to have new ideas circulating inside of us.

The instrumentation of the piece is made up of three shruti boxes and one harmonium that have been tuned by hand using filing tools and a hertz counter into four different microtonal tunings of just intonation using intervals of the first 7 primes (2-17) of the harmonic series. The more primes one explores, the more detailed and minute the sonic possibilities are. The piece was written using my own graphic score format, inspired by the incredible (and recently passed) composer Yoshi Wada, color-coding the notes so that anyone of any background (be it musical or non-musical) could play it. Each note on each instrument represents the song of a single whale, therefore, *'the forty whales'* refers to the forty separate voices that are present in the work. Four to six vocal parts are included in addition to the shrutis to reach forty.

The composition tries to tackle so many things: the unities of humanity, climate change and its effect on the sentient and beautiful creatures of our oceans, friendship, ecstasy, love, grief, suffering, existential chaos, and the hypnosis of it all. I can't help but think of the dichotomy of feeling so alone during this time, and yet so close to others at moments too. I wanted to write a piece that allows all of us to be close to each other, if not in merely physical space, in sonic and emotional space as well. This is paired with an exploration and fascination with the ways natural harmonics remind me so much of whale songs, how the scope of time is slower and more expansive for whales than our own, and how Earth's whale populations - while making a gradual comeback after the devastating whaling industry booms from the 16th to 20th centuries - are now facing risk from environmental factors of Earth's changing climate. They are some of the last true megafauna on Earth, some of which can live to be over 200 years old. The number 40 refers to a concept in the mystical faith of Alevism in Turkey known as *Kırklar Cemi*, or the Assembly of the Forty Beings, which is often mentioned in Alevi/Bektashi music (that I have loved so much), specifically that of Neşet Ertaş and Ali Ekber Çiçek, who often refer in their mystical ballads to these *cemi* (gatherings) in conjunction with the practice of *semah* (ritual dancing) and *deyiş* (the chanting of Alevi hymns). I feel, in a parallel sense, that we could perhaps practice our own semah and chant our *deyiş* in union with the forty.

All this, for me, is joined quite seamlessly with the movement work and philosophy of Katrina. As a Vipassana meditator of over five years, her attention to detail and subtlety in movement is profound. I can think of no other more appropriate pairing of experiences and intuitions as with hers. From Katrina: "I will be joining the piece with my movement, allowing me to share a very important aspect of my movement practice that has not previously been a focus in my performance work. This type of movement is contained, making slow and subtle shifts over a long period of time. As the sound ebbs and flows like moving water, lava, the slow growth of organic forms, the body will utilize the sonic vibrations to be moved as would any other element in natural world, relinquishing all sense of humanness to become what the body actually is: simply another aspect of nature."