

**JORDAN DYKSTRA**

*THE ARROW OF TIME*



## New Adventures on the Plane of Harmonic Consistency

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**W**e want to fabricate a new music. We imagine a situation in which the sounding together of tones is never taken for granted, is continually renewed and reinvented. We know that the effect of any set of simultaneous tones, by means of the multiplication implicit in the harmonic series, totals much more than the number of notes played. A room can be made to vibrate with hundreds of frequencies by a single chord. We want to enter into a universe of harmony in which it becomes possible to hear into the interstices of what *does not* sound by means of what *does* sound. We will use harmony to probe one world, and when that world is known, move from it to another and another beyond that.

It is with this state of mind that I listen to the music by Jordan Dykstra. It reawakens in me a primal fascination with the simultaneity of sound. Because of the inventiveness of its compositional strategies, the music inspires a sense of open possibility, of something yet to come, of something yet not quite with us. Dykstra has a creative impulse, shared with many experimental composers, of not wanting to repeat in one piece what he has done in another. Each work seems to begin with a moment in an empty space. When I listen carefully before each piece on this disc starts, I have a keen sense of that space. It must contain an echo of the moment just before Dykstra started writing the piece: that moment when anything can happen.



Jordan Dykstra (b. 1985 in Sioux City, Iowa) has been active in a variety of music scenes over the past fifteen years, including experimental, classical, and

improvised. After a first stint in college in Southern California, he moved to Portland in 2007. There he played in various groups from pop to the avant-garde. He often performed on the viola in the very active experimental and free improvised scenes in Portland, playing with such luminaries as Nate Wooley, Matana Roberts, and John Weise, amongst many others. There Dykstra encountered Just Intonation for the first time as violist in Prism Band. He made and performed in a number of pieces for dance. After a year in Iceland in 2014, studying with Daniél Bjarnason, he returned to Southern California and completed his Bachelor's degree at the California Institute of the Arts (in 2016), studying primarily with Wolfgang von Schweinitz, Ulrich Krieger and myself. Dykstra completed his Master's in composition at Wesleyan University, in Middletown, Connecticut, in 2018. Along the way he also studied privately with Chiyoko Szlavnic, Jürg Frey, and Alvin Lucier, with whom he has worked in an especially close relationship. This pathway has taken Dykstra to both coasts and Europe, but also deep into the theoretical sources of experimental music.



*Fathom Peaks Unseen* (2015/16) finds its material in an inverted harmonic series. The partials of the series (i.e., the frequency ratios of each tone to the fundamental: 2/1, 3/1, 4/1, 5/1 and so on), are built from the top down instead of the bottom up. The fundamental lies at the upper limit of notated pitch range—5000hz—which is a D<sup>#</sup> + 8 cents, three chromatic notes above the highest note on the piano keyboard.

This chord has its root, so to speak, high in the air, like an inverted tree, or like a mountain whose reflection in a lake is upside down. Its structure disturbs the perceptually familiar arrangement of the overtones, with larger intervals at the bottom of the range and proportionally smaller intervals as it moves upwards. To many musicians, including composers like Dykstra who often work with Just Intonation, this arrangement feels like an acoustical law and a way to achieve

maximum resonance. James Tenney's orchestra work, *Diapason* (1996), is as good a place as any to have the experience of this resonance. Like *Diapason*, Dykstra uses retuned open strings to allow for maximum accuracy. Since there are five instruments with four strings each, they have a gamut of twenty notes. The two crotales play from the equal tempered tones from D#<sup>6</sup> to C<sup>8</sup>.

Throughout the piece subsets of the gamut form in unpredictable ways, creating simultaneities of from two to twelve notes. Due to the unbalance of this chord and the height of its fundamental, there is an internal dynamism in the harmony. The beginning, as the crotales and string quintet introduce one note at a time, feels distinctly off-kilter in a delightfully sensuous way. When the violoncello and contrabass enter (at 0:40), we appear to have reached a moment of stability; but the ground is unstable and gives way some seconds later.

The piece is poised between consonance and dissonance, one clouding the other. At around 4:00, following a stable interlude (where the 18th partial, C# + 4 cents, almost feels like a root), the 23rd partial in the violoncello trespasses tentatively into the space. At 5:09 the root pitch at its lowest extent (128th and 64th partials, D#, D#<sup>2</sup>) appears in the contrabass, but it is darkened by a host of dissonant tones. At around 7:20 the lowest tones in the strings build a densely packed chord with the 40th, 56th, 80th, 100th, and 128th partials, which functions like a strange, inverted climax. This is perhaps the place where the impact of the inverted series is felt most strongly.

As with the other works on this disc, this piece can feel like a moving landscape. But the landscape is both intensive and extensive. The folds of the harmony happen as much in the ear as in the air. The ears, like the lungs, branch into the body like a tree. In the first of the *Sonnets to Orpheus*, Rainier Maria Rilke calls it the "*bober Baum im Ohr*" (the tall tree *in the ear*), with the implication that our brain also grows inside us like a tree. Music with unusual harmony causes our brains to grow.



"The writer never knows whether the work is done. What he has finished in one book, he starts over in another. [...] That the work is infinite means, for him, that the artist, though unable to finish it, can nevertheless make it the delimited site of an endless task whose incompleteness develops the mastery of the mind, expresses this mastery, expresses it by developing it in the form of power. At a certain moment, circumstances—that is, history, in the person of the publisher or in the guise of financial exigencies, social duties—pronounce the missing end, and the artist, freed by dénouement of pure constraint, pursues the unfinished matter elsewhere." ("The Essential Solitude" in *The Space of Literature*, Maurice Blanchot, Ann Smock, trans., University of Nebraska Press, Lincoln, 1982)

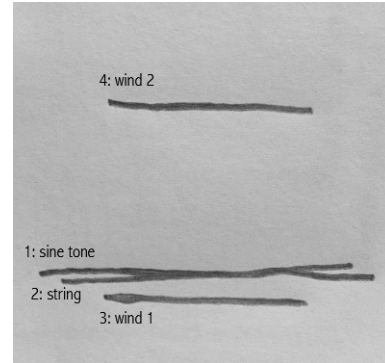
Since at least the music and thought of John Cage, the idea of a finished composition seems like an illusory proposition. Even works that appear to be finite, like the modernist literature Blanchot writes about (Kafka, Hölderlin, Beckett, Mallarmé, Rimbaud, and so on) are more abandoned than finished. Classical or notated music is a special case of this, since it is also typically completed by and through performance with other musicians. All of Dykstra's music is written, explicitly or implicitly, with an understanding of the incompleteness of the score and of the contingent nature of performance.

The scores for *Ghosting No. 3* (2017), *Orbits* (2016/17), and *In the Snow* (2018) all have a degree of indeterminacy. In each piece there is an opening for a very large number of realizations. And in each case this opening is placed at the core of the harmony itself, with something critical being supplied by the performer. But in each piece the performers are given a narrow range of choice, where a spontaneous decision can be felt to have interpretative and affective weight. Despite this limitation, the range of actual harmonic possibilities (especially in *Orbits* and in *In the Snow*) is virtually limitless.

*Ghosting No. 3* is one version of a larger template which functions as a parent score (*Ghosting*). The parent has nine possible parts (three each of treble, alto, and bass), but any one version may use only from two to eight of these parts. (These may be selected by the performers.) It is possible for one performer to play more than one part (two lines, treble and bass on one keyboard instrument, for example) and also for one part to be doubled (that is, the same voice played by more than one musician). Within these limitations it is possible to have 501 different combinations of the nine parts! If one factors in the possible variations of instrumentation, the number of possible different versions is very high indeed. It is fascinating to consider this chaotic plenitude of possibility standing behind the placid sound of this recording.

This realization has four performers playing six voices (two treble, two alto, two bass). It consists of slowly but constantly changing harmony that feels like the stretching to the limit of a gentle and beautiful progression. The piece ends with sustained and repeated set of chords that function as a final cadence.

*Orbits* is based on a single gesture—one that can be endlessly varied, but also elegantly formulated. The template provided in the score shows four lines, each of which represents a pitch in time: (1) A steady sine tone, represented by a horizontal line. (2) An upward slanting line, representing a small glissando on a string instrument. Over the duration it crosses from just below the tone to just above the sine tone. (3 & 4) Two tones played by one wind instrument: one somewhat below the sine tone frequency and one quite far above. This gesture lasts thirty seconds and is always followed by ten seconds of silence. It is repeated twenty-four times, each time with a sine tone at a different frequency. I have annotated this diagram from the score to show how the parts relate:



In the luminous performance on this disc, which features Eugene Moon on sheng and Dykstra on viola, each new harmony is filled with nuances, and each nuance opens on to a plain that was expanded by the previous chord.

*In the Snow* has a relatively complex multipart structure. In the first section, the viola and the violoncello play a perfect fifth ( $3/2$ ) nine times. When this sequence is repeated, the violinist is asked to select a tone of their own choosing in any tuning, that falls within that interval. It is fascinating to investigate the character of each choice: If it is a second away from one of the notes, we appreciate how close it is to the upper or lower tone. If it is somewhere in the middle, it forms some kind of triad (varieties of major, minor, and neutral are all possible).

The second section expands upon this model (violinist freely choosing a tone between those of the viola and violoncello), but with a different set of justly-tuned limit intervals and some sustained tones, complicating the texture

slightly. This is followed by a striking section in which the violin slides on its G string upwards to a tone that is determined by the timing of the onset of the (7th partial) interval played by the viola and violoncello. The siren-like glissando abruptly halts on what will inevitably be an unplanned arrival. It is as if you were climbing a hill twelve times, stopping suddenly at a different place each time. The piece ends with another cadence (reminiscent of the one in *Ghosting No. 3*) with a repeated unison G.

The color of *In the Snow* is a fine white-grey, with subtle shading supplied by the harmonics played throughout by viola and cello. There is something mysterious about the way one section follows another: It has an interior logic that is at once secure and surprising, in a way that sometimes calls to mind the work of Jürg Frey. The comparison is instructive though, because to my ears, Dykstra's work does not share the fogbound melancholy of Frey. Dykstra's work, even in these relatively calm settings, has an atmosphere of excited expectation, where the dynamic engine at the core of each piece always retains a potential to shower sparks. This is one consequence of Dykstra's embrace of incompleteness Blanchot identifies in literature.



Music is both asymmetric and symmetric in relation to what we call “time.” I am not trying to be cute by putting *time* in quotations. Musicians and other ordinary people mostly use the word with conventional meaning. Physicists do not, or rather, cannot, because the complexity of the physical world does not offer any easy summary of questions of event, succession, direction, duration, and so on. A particularly perplexing question is whether time has a *direction*. “Time’s Arrow” is a concept that was developed by the British astrophysicist, Arthur Eddington, to describe the one-way direction or *asymmetry* of time. In his view, this describes the entropy (from Maxwell’s second law of thermodynamics) of large parts of the physical world. It is the framework behind large-scale cosmological theories like the Big Bang. There are also *time-symmetric* phenomena, especially in quantum mechanics.

Time-symmetry is commonly described as a situation where a film of real events would seem realistic if played forwards or backwards.

Music’s asymmetry or symmetry depends upon the forces of its construction. Throughout the history of classical music of the past 500 years, theory has been marked in particular by the concept of harmonic progression, which posits an asymmetrical directionality towards the tonic. Many classical forms are described as if an inexorable momentum carries them along to the end. But at least since the music and writings of John Cage, time-symmetric approaches have become apparent. James Tenney’s word for this was “ergodicity.” It is a strain of music that gives off a feeling of eternal present, and includes among others, many pieces by Cage, some music by Lucier, Tenney, Oliveros and LaMonte Young, and quite a lot of music from the Wandelweiser collective. In this music we are very often in a situation where, if the events of a score were played backwards, they would have the same sense of direction in time as when played forwards.

The final piece on this disc plays with *both* symmetrical and asymmetrical aspects of time, and then leaves us with something a bit beyond either one.

*The Arrow of Time* (2019) is in four sections:

- 1) “Dreunend” (droning) (5:00)
- 2) “Nach innen gehen” (towards the interior) (4:30)
- 3) “The Arrow of Time” (8:30)
- 4) “Natura Selvaggia” (wild nature) (4:30)

In the first section we hear the sounds of bees and a very low tone, which turns out to be a recorded siren. The pun in the title of this section is a delicious anthropomorphism: Is the drone of the siren a distant relative to bees? Here, as throughout most of the piece, the piano plays single tones in the range of the other sounds, its melodic wandering feeling poised between symmetrical and asymmetrical time. In section 2, the sirens make a dramatic re-appearance, now tuned to chords. As with section 1, the piano meanders within the range of the sirens.

In Section 3, which is called “The Arrow of Time,” the music comes to a near standstill. As it starts, a single piano tone (B<sub>5</sub>) “repeats in time with (and within) the beating of two sine tones.” It is an incredible moment. After all of the movement, placid but constant, of the first hour of the disc, time seems to stop: poised not at a resting point, but rather at a point of (relatively) high tension, like a frozen leap. Like Yves Klein forever about to hit the pavement, arrested in mid-air. If you take any one instant in the arrow of time, you have nothing other than placement of objects, a configuration of every molecule marked, not by when it occurs, but rather by *where* it occurs. To my ears it is as if the entire disc has been headed in this direction, but not simply as an arrival of a moment in a piece, but as the revelation of a limit of inquiry. How close can we get to time stopping without *actually* stopping? As if to emphasize the point, the sound of a ticking clock is introduced. The hands and gears of the clock might be moving, but the *sound* of the clock does not. We stay in this moment for quite a while, but when section 4 begins (at 18:00) we are thrust back into the world. The sirens return and we hear the otherworldly tones of a “skyquake” in the distance.

The title of section 4 (and the piece itself) is an homage to Walter Marchetti. I feel Marchetti’s presence throughout this performance, especially in the form of Reinier van Houdt, whose profound recordings of Marchetti’s piano music must have been echoing in Dykstra’s ears. *Natura morta* means still life, but Dykstra’s final section is a kind of “wild life.” The layering of everything at once suggests simultaneously multiple locations on the earth and in the sky. Time no longer seems relevant. These things have always been there. They are like the notes of a large chord, each one beating at its own frequency, each one bound to harmonize with its neighbor.

Time is place.

—Michael Pisaro-Liu

*Michael Pisaro-Liu is a composer based in California. He has taught composition and experimental music at CalArts since 2000.*

**Jordan Dykstra** (b. 1985) is a Brooklyn-based violist and composer exploring the performer-composer-listener relationship through the incorporation of conceptual, graphic, and text-based elements. In 2007 he moved to Portland, Oregon, and became involved in the experimental music scene in the Pacific Northwest. Aside from performing and recording with individuals and bands—including Dirty Projectors, Valet, Atlas Sound, and A Winged Victory for the Sullen—he worked at Marriage Records and Publishing House. In 2014 he received a Career Opportunity Grant from the Oregon Arts Commission to apprentice with Daníel Bjarnason, composer and conductor of the Icelandic Symphony Orchestra, in Reykjavík, Iceland. He received his B.F.A. in 2016 under Michael Pisaro, Ulrich Krieger, and Wolfgang von Schweinitz at the California Institute of the Arts in Los Angeles. In 2018 he received his M.A. in Experimental Composition from Wesleyan University in Connecticut. Under the mentorship of Alvin Lucier and astrophysicist Seth Redfield, his thesis explored connections between microtonality and the cosmic distance ladder. In 2019 he received a Cultural Grant from the Netherlands–America Foundation to compose *The Arrow of Time* and to premiere the work with Reinier van Houdt in Amsterdam.

As a media composer he has numerous credits, including the films *Blow the Man Down*, *Hail Satan?*, *It Comes At Night*, and the 2019 Emmy winner for Outstanding Investigative Documentary, *Documenting Hate*. His compositions for film have been heard at Cannes, Sundance, TriBeCa, TIFF, and the IFFR. His performance highlights include MOCA (CA), Harpa (Iceland), Musikfestival Bern (Switzerland), Ftarrri (Tokyo), CHAFF (Brussels), Echo Bücher (Berlin), Syros Institute (Greece), Yale Union (OR), Big Ears Festival (TN), and the Rhode Island School of Design Museum (RI). Recordings of his music (solo and collaborative) have been issued by Domino, Milan, Marriage, Mexican Summer, K, Gilgongo, and Dykstra’s own cottage-industry label, Editions Verde.

[www.jordandykstra.com](http://www.jordandykstra.com)

Cellist and electronic musician **Laura Cetilia** is a performer, composer, educator, and presenter. As a daughter of mixed heritage (second-generation Mexican-American), she is at home with in-betweenness, moving with ease through genres and practices as she did with cultures and languages growing up on the Eastside of Los Angeles.

**Sara Cubarsi** is a violinist specializing in new music performance and composition. She has an active performance career as a soloist, chamber musician, and orchestral leader in London, Barcelona, and Los Angeles. She completed her doctoral studies in the Performer-Composer program at the California Institute of the Arts in 2018.

**Morgan Evans-Weiler** is an interdisciplinary artist, organizer, and musician currently based in Ithaca, New York. Through installation, sculpture, drawing, and sound, his work addresses the complexities of process, energy, materiality, non-systems, and the language of lines.

**J. P. A. Falzone** founded the Providence Research Ensemble in 2014 and is also a member of Ordinary Affects, a performer-composers' collective. In fall 2020, Falzone will begin doctoral study in composition at the University of Buffalo.

**Adam Forkner** is a Los Angeles-based performer, producer, and multi-instrumentalist with more than 140 recording credits. A self-proclaimed neo-Fluxist and theorist emeritus of Fifth World Studies, Forkner's practice is a perpetual engagement with digital and emotional ephemera, audio collage, and commissioned commercial compositions he calls "Bio-Digital Jazz."

Cellist **David Mason** has a broad musical flexibility that allows him to perform with the Bakersfield Symphony, Golden State Pops, and other such groups. On the contemporary end of the spectrum, he performs regular concerts with The Dog Star Orchestra and the new music ensembles of Monday Evening Concerts (MEC), and in 2017 he curated his own cello + electronics tour.

**Eugene Moon** is a Los Angeles-based performer, improviser, painter, and instrument-builder. His work draws influences from his study in history, language,

culture, and ethnomusicology, especially how cultures and traditions have been altered or adapted through the trading of ideas, goods, and music.

Violist, conductor, and educator **Nadya Potemkina** is an Adjunct Associate Professor of Music at Wesleyan University in Middletown, Connecticut, where she directs the University Orchestra, Concert Choir, Ad Hoc Bach Collective, and teaches courses in music literature, theory, and conducting.

Composer and multi-instrumentalist **Dave Scanlon** is an active member of the experimental rock band JOBS and pursues a practice of writing austere songs. He has performed at the Boston Institute of Contemporary Art, Casa Del Popolo, Issue Project Room, Roulette, Shinjuku Pit Inn, and The Stone, among others.

Los Angeles-based **Jonathan Tang** continues to carve a path as an adamant activist and genre-bending artist. As a conductor and multi-instrumentalist, he is also the founder and artistic director of *numu LA*, a series of contemporary immersive experiences that pair new music and artwork with key social issues.

**Reinier van Houdt** is a pianist/composer from The Netherlands. He has released four solo albums in addition to collaborations with Robert Ashley, Alvin Curran, Annea Lockwood, Michael Pisaro, Maria de Alvear, Francisco López, Christian Marclay, Nomi Epstein, and many others. He is part of David Tibet's Current 93 and he is a driving force behind the hybrid collective MAZE.

**Miller Wren** is a Los Angeles-based bassist and composer-improviser. He works primarily in the fields of new, creative, and improvised music and has been fortunate to do so with such artists as Vinny Golia, Eyvind Kang, Hildur Guðnadóttir, Stephanie Richards, Dan Rosenboom, Alex Cline, and the Santa Monica Symphony.

**Joy Yi** is a violist and violinist in the Los Angeles area who enjoys teaching at local public schools and at her private studio. She also loves to collaborate with composers from all over the world. Ms. Yi has performed and recorded with Sam Smith, DeadMau5, Boyz II Men, Bastille, Mandy Moore, Israel Houghton, and other artists.

## SELECTED DISCOGRAPHY

- 14 Horse Bells* (forthcoming). Editions Verde EVSFT002.  
*Audition*. Marriage Records MAR078.  
*Blow the Man Down* (forthcoming OST with Brian McOmber). Editions Verde EV009.  
*Found Clouds*. Editions Verde EVSFT001.  
*Hail Satan?* (OST with Brian McOmber and Angel Deradoorian). Wayfind Records WR-009.  
*Is Land a Voice*. Editions Verde EV005.  
*It Comes at Night* (OST with Brian McOmber). Milan Records MLN1-36850.  
*A Known Unknown*. Editions Verde EV007.  
*Out of Our Hands* (forthcoming with Alvin Lucier). Important Records.  
*Stressings*. Editions Verde EV003.

Produced and mixed by Jordan Dykstra  
Digital mastering: Paul Zinman, SoundByte Productions Inc., NYC

### *The Arrow of Time*

- Recording engineer: Jordan Dykstra  
Recorded May 2019 at Splendor, Amsterdam, The Netherlands.  
Additional playback information:  
—Field recordings (Jordan Dykstra): Brussels, September 2018; California, February 2019; Connecticut, April and May 2019; New York City, August 2018  
—Siren chord recordings and electronic programming: Connecticut, April 2019 (Jordan Dykstra)  
—Drum Programming: California, April 2019 (Adam Forkner)

### *Fathom Peaks Unseen*

Recording engineer: Jordan Dykstra  
Recorded May 2016 in Val Verde, CA.

### *Ghosting No. 3*

Recording engineer: David Scanlon  
Recorded live October 2017 in Beckham Hall, Wesleyan University, Middletown, CT.

### *In the Snow*

Recording engineer: Luke Modolf  
Recorded March 2018 at Brown University, Providence, RI.

### *Orbits*

Recording engineer: Jordan Dykstra  
Recorded June 2016 in Val Verde, CA.

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**JORDAN DYKSTRA**  
(b. 1985)  
*THE ARROW OF TIME*



File Under: Classical/  
Contemporary/ Dykstra, Jordan

1. *Fathom Peaks Unseen* (2015/16) 10:59

Sara Cubarsi, violin; Jonathan Tang, violin; Joy Yi, viola;  
David Mason, cello; Miller Wren, double bass; Jordan Dykstra, crotales

2. *Ghosting No. 3* (2017) 7:15

Nadya Potemkina, viola; Jordan Dykstra, viola;  
J.P.A. Falzone, vibraphone and pedal synthesizer;  
Dave Scanlon, reed organ

3. *Orbits* (2016/17) 15:21

Jordan Dykstra, viola, sine tones; Eugene Moon, sheng

4. *In the Snow* (2018) 15:46

Morgan Evans-Weiler, violin; Jordan Dykstra, viola; Laura Cetilia, cello

5. *The Arrow of Time* (2019) 22:45

Reinier van Houdt, piano, hand-crank siren;  
Jordan Dykstra, fixed media playback;  
additional drum programming by Adam Forkner

TT: 72:21

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