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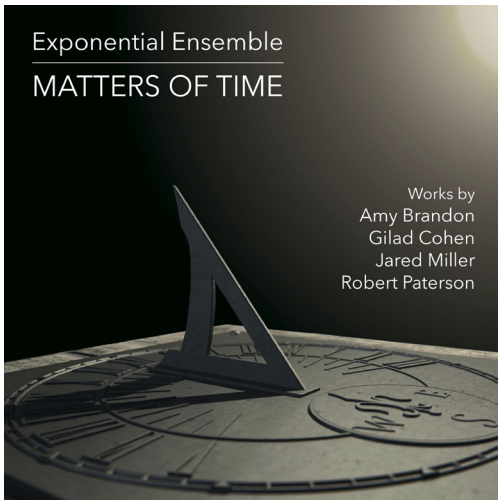
Exponential Ensemble's Debut Album *Matters of Time* – Out March 1

A group's passion for science and math is at the forefront in new works by Amy Brandon, Gilad Cohen, Jared Miller, and Robert Paterson.



The NYC-based chamber collective **Exponential Ensemble** releases its debut album, ***Matters of Time***, on **March 1**. The recording, out on the American Modern Recordings label, features newly commissioned works by **Amy Brandon**, **Gilad Cohen**, **Jared Miller**, and **Robert Paterson** – all of which are inspired by science.

Exponential Ensemble's Artistic Director **Pascal Archer** describes time and matter as the album's through-line. Amy Brandon's ***Crown of the Sun*** is inspired by a NASA recording of the sun's crown. Gilad Cohen's ***A Dark Matter*** sees astrophysics' concept of dark matter as a reminder that the universe is mostly made of matter that we can't even see or define. Cohen says:

I find it fascinating that a concept that may have such a foundational role in the construction of the universe remains that mysterious as of today. My piece explores the notion that our mind also sometimes circles around an intangible "dark matter." An indefinable worry, regret, or fear can occupy us for a long time and color everything else in dark shades.

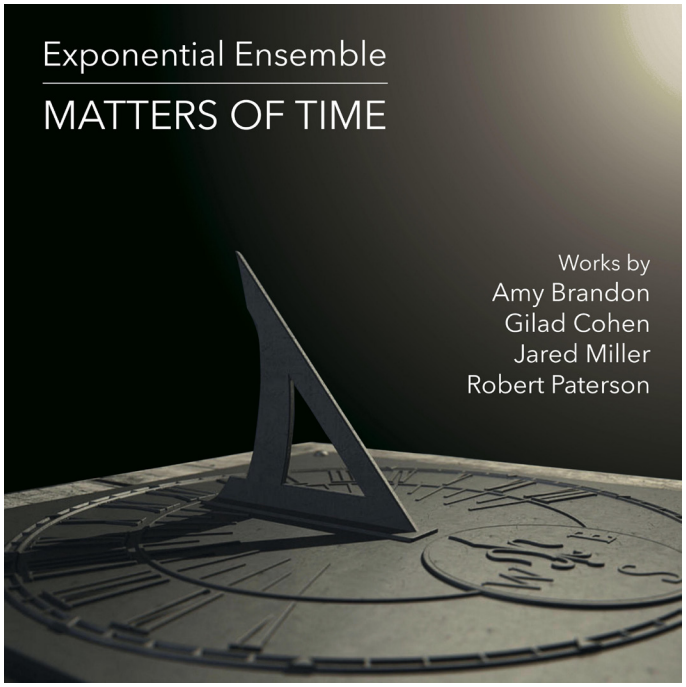
KEEP READING

The Bright Exuberant Silence was inspired by Jared Miller's experience of standing in the middle of Times Square in the summer of 2020 with just the bright exuberant neons and blooming dandelions as silent companions.

Finally, time and matter are the foundation of Albert Einstein's Theory of Relativity and also the root of Robert Paterson's ***Relative Theory***. Paterson's trademark whimsy shines through as he references four important scientists and mathematicians: Blaise Pascal, Albert Einstein, Emmy Noether and Pythagoras. He describes his inspiration for the work:

Each movement is inspired by a mathematician or theoretical physicist. I was inspired by a story that the commissioning ensemble, Exponential Ensemble, told me about how much they enjoy performing programs for children that relate math to music. In a fun, yet hopefully meaningful way, the movements of my piece are designed to draw parallels between these two distinct, but interrelated worlds.

Founded in 2011 by clarinetist Pascal Archer, Exponential Ensemble is a mixed chamber music collective comprised of NYC's top performers and teaching artists. Exponential Ensemble's mission includes commissioning and premiering works by living composers that are inspired by math, science and literacy



Exponential Ensemble
MATTERS OF TIME

Release Date: ***March 1, 2024***
Format: ***CD/Digital***
Label: ***American Modern Recordings***

Exponential Ensemble Roster
Anna Urrey, *Flute/Piccolo**
Pascal Archer, *Clarinet/Bass Clarinet**
Kemp Jernigan, *Oboe/English Horn**
Joshua Butcher, *Bassoon**
Nicolee Kuester, *Horn+*
Alejandro Lopéz-Samamé, *Trumpet+*
Suliman Tekalli, *Violin**
Rubén Rengel, *Violin+*
Ramón Carrero-Martínez, *Viola**
Caleb van der Swaagh, *Cello**
Amir Farid, *Piano**

**Ensemble member* *+Guest*

TRACKS

1.	***Crown of the Sun*** by Amy Brandon (2020)	[9:07]
	A Dark Matter by Gilad Cohen (2021)	
2.	I. Pensive	[4:48]
3.	II. With a heavy heart	[5:47]
4.	III. Dark and heavy	[4:52]
5.	IV. A beam of light	[3:01]
	The Bright Exuberant Silence by Jared Miller (2023)	
6.	I. Bright, Electric	[5:08]
7.	II. Effervescent	[5:00]
8.	III. In Slow Motion	[8:27]
	Relative Theory by Robert Paterson (2019)	
2.	I. Pascal's Triangle	[2:41]
3.	II. Noether's Theorum	[3:33]
4.	III. Einstein's Daydream	[4:17]
5.	IV. The Hammers of Pythagoras	[3:02]

CREDITS

Producer & Engineer: *Adam Abeshouse*; Executive Producer: *Robert Paterson*;
Assistant Engineer: *Doron Schächter*; Package Design and Layout: *Pat Burke*

Recorded at The DiMenna Center for Classical Music, New York City, April 30, May 1, 3 & 4, 2023

EXPONENTIAL ENSEMBLE

Founded in 2011 by clarinetist Pascal Archer, Exponential Ensemble is a mixed chamber music collective that comprises New York City's top-notch performers and teaching artists. Each season the ensemble presents compelling programs that include both classic masterworks and contemporary masterpieces to a variety of audiences.

Exponential Ensemble's mission includes commissioning and premiering works by living composers that are inspired by math, science and literacy. Since 2013 they have commissioned more than 50 new works by composers such as Amy Brandon, Jessica Meyer, Jared Miller, Robert Paterson, and Gilad Cohen. They collaborate regularly with the Fordham Composers Program at Lincoln Center's Fordham University. Other collaborations include new music residencies with the Composers Collective and the Mostly Modern Festival, during which they premiered a variety of works by emerging composers from across the USA.

Additionally, Exponential Ensemble curates interactive educational programs that use music as a way to connect with school curricula. These programs have been delivered to organizations such as Music for Autism, the Bethel Woods Center for the Arts and in New York City public schools. Past commissions have been made possible by the New York State Council on the Arts, the Composers Guild of New Jersey, the Chamber Music America Classical Commissioning program, and The Andrew W. Mellon Foundation.

NOTES BY ARTISTIC DIRECTOR PASCAL ARCHER

Matters of Time, Exponential Ensemble's debut album, features four commissioned works inspired by science. Time and matter are the common elements of all these works, starting with ***Crown of the Sun*** by Amy Brandon. The sun has always been instrumental in keeping our daily sense of time, from sunrise to sunset, while making life on earth possible. Inspired by a NASA recording of the sun's crown, this piece will take you to a unique sonic world made of woodwind multiphonics.

A Dark Matter by Gilad Cohen, inspired by the astrophysics concept of dark matter, is a reminder that the universe is mostly made of matter that we can't even see or define, very much like our own matters (or worries) that we carry around everyday in our minds. ***A Dark Matter*** was also inspired by Gilad Cohen's own experience of the COVID-19 pandemic; matters that all of humanity can relate to forever.

Climate change is a matter of our time. During the COVID-19 pandemic, travel significantly came to a halt, air pollution decreased and nature slowly took over again; sometimes in the most unusual places. ***The Bright Exuberant Silence*** was inspired by Jared Miller's experience of standing in the middle of Times Square in the summer of 2020 with just the bright exuberant neons and blooming dandelions as silent companions.

Finally, time and matter are the foundation of the Theory of Relativity by Albert Einstein and also the root of ***Relative Theory*** by Robert Paterson; a whimsical work inspired by four important scientists and mathematicians: Blaise Pascal, Albert Einstein, Emmy Noether and Pythagoras.

Thank you to all our composers for writing these wonderful and meaningful works. It is with great pride that we present to you our debut album: ***Matters of Time***.

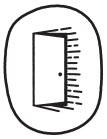
– Pascal Archer / Artistic Director, Exponential Ensemble

NOTES BY THE COMPOSERS

CROWN OF THE SUN

Crown of the Sun is a reflection on the physical nature of the sun's corona contrasted with the deep emptiness of space. In reflecting on the visual aspect of the corona, concepts of emptiness and power (symbolized by the 'crown' inherent in the name of corona) also emerge, including images of crowns of thorns and circular sequences of power structures rising and collapsing. NASA recently sonified the radiation patterns that the sun emits, and I found a particular connection between this sound and the complex and beautiful sound of oboe multiphonics, particularly those present in Heinz Holliger's work *Studie über Mehrklänge für Oboe solo* (1971), which is why they are referenced throughout this piece, to essentially sonify the varying states of the sun's corona in sound. *Crown of the Sun* has been made possible with generous support from the Canada Council for the Arts.

– Amy Brandon



A DARK MATTER

Dark matter is one of the most elusive phenomena in the world. While physicists estimate that dark matter accounts for 85% of the matter in the universe, it has not been proved yet that it actually exists. I find it fascinating that a concept that may have such a foundational role in the construction of the universe remains that mysterious as of today. My piece ***A Dark Matter*** explores the notion that our mind also sometimes circles around an intangible "dark matter." An indefinable worry, regret, or fear can occupy us for a long time and color everything else in dark shades. At the core of this piece is such musical "dark matter." The first three movements begin almost identically with a claustrophobic web of three melodic threads that crawl, tangle and repeat without any sense of resolution. In each movement, a different one of these threads develops into its own small melancholic universe. In the fourth and last movement, out of the gloom grows a simple melody in the alto flute that offers some hope and comfort, despite the return of the "dark matter" threads at the very end of the piece.

A Dark Matter has been made possible by the Chamber Music America Classical Commissioning Program, with generous funding provided by The Andrew W. Mellon Foundation, and with additional support from the Composers Guild of New Jersey.

– Gilad Cohen

THE BRIGHT EXUBERANT SILENCE

Climate change has had deleterious effects on our environment and on human society over the past century. Coastal cities are flooding, and turning into lakes, rivers, and oceans again. Farmland that has grown food and nourished communities for generations is turning into arid deserts. Forests are increasingly eviscerated by fires every year. In short, it feels like nature is overtaking and ultimately destroying our society and the places in which we dwell with a vengeance.

And yet, in spring of 2020, when the world was put on pause due to COVID-19, nature began to heal. Pollution started to clear in the air as fewer people drove cars to work every day. Birdsong was audible in silent metropolises as the constant hum of electricity, pedestrians and construction was not in the air. You could even see the stars in the sky in the middle of Manhattan on some nights. Nature began to overtake cities quietly and holistically – and for a moment, urban dwellers learned what it was like to peacefully coexist with the natural world.

The Bright Exuberant Silence is inspired by this fleeting and eerie moment in modern history when – at the height of late capitalism and its destructive effects on the environment – everything stopped and cities started to turn into nature again.

The Bright Exuberant Silence has been made possible with generous support from the Canada Council for the Arts.

– Jared Miller

RELATIVE THEORY

Relative Theory is a four-movement, ca. twelve-minute work for flute (doubling piccolo), oboe (doubling English horn), clarinet (doubling bass clarinet), and piano. Each movement is inspired by a mathematician or theoretical physicist. I was inspired by a story that the commissioning ensemble, Exponential Ensemble, told me about how much they enjoy performing programs for children that relate math to music. In a fun, yet hopefully meaningful way, the movements of my piece are designed to draw parallels between these two distinct, but interrelated worlds.

The title ***Relative Theory*** is a play on words: it loosely refers to Albert Einstein's famous Special Theory of Relativity, but also to musical theories and theoretical principles that are used between each of the movements. All of these movements are inspired by mathematicians or theoretical physicists, and their theorems and theories inspire the music itself.

In Pascal's Triangle, triads and intervallic content are structured so as to use binomial coefficients in musical ways. In Noether's Theorem, the music mirrors her theorem, which states that every differentiable symmetry of the action of a physical system has a corresponding conservation law. Einstein's Daydream, perhaps the most fanciful movement, quotes a few themes from Beethoven, J.S. Bach and Mozart, three composers whose music Einstein loved to play on his violin. The work ends with a movement entitled The Hammers of Pythagoras, inspired by a legendary, apocryphal but nevertheless playful tale of Pythagoras passing by a blacksmith at work one day, and discovering that musical notes could be translated into mathematical equations.

There are some fascinating programmatic relations that dictate how thematic materials are used in various movements. Albert Einstein thought very highly of Emmy Noether, a mathematician who never achieved the fame she deserved because she was female. In fact, some of her theories inspired Einstein. Therefore, some of the themes in the second movement are used in the third. Einstein and Pythagoras both figure prominently in music history, albeit for different reasons, so themes from each of these movements permeate back and forth.

Relative Theory was commissioned by Exponential Ensemble, with funding from the New York State Council on The Arts (NYSCA).

– Robert Paterson