



HOPKINS CENTER
FOR THE ARTS

presents

MOLLY HERRON

STEM *Arts*

with

TIGUE *percussion*

Justine Aronson *soprano*

Sarah Brailey *soprano*

Andrew Munn *bass*

*Supported in part by the Barbara J. and Richard W. Couch Jr. '64 Th'65 Hopkins Center Innovation Fund
and The Andrew W. Mellon Foundation.*

Presented in collaboration with  THAYER SCHOOL OF
ENGINEERING
AT DARTMOUTH

Thursday, May 4, 2017 • 5 pm

Glycofi Atrium, Thayer School • Dartmouth College

PROGRAM

Assembly

World Premiere, Hopkins Center Commission

Molly Herron

I. The Oldest Materials

II. Wood

III. Metals and Polymers

ARTISTS

Molly Herron *composer*

Vocals

Justine Aronson *soprano*

Sarah Brailey *soprano*

Andrew Munn *bass*

TIGUE

Amy Garapic *percussion*

Matt Evans *percussion*

Carson Moody *percussion*

Instrument Designers

Kirstyn Coxen '19

Joshua Elliott TH

Lessley Hernandez '20

Lisa Je TH

Shaojie Jiao GR

Mackenzie Kynoch '19

Dave LaCroix '19

Kevin Yang '20

*TH=Thayer School of Engineering Graduate Student
GR=Arts and Sciences Graduate Student*

Special thanks to the
Thayer School of Engineering

PROGRAM NOTES

Assembly was inspired by the people and programs at the Thayer School of Engineering, where I spent time during 2016 and 2017 becoming acquainted with the community and their work.

During my time at Thayer, it struck me that engineering is a deeply inclusive field that brings together people from all backgrounds. I met mathematicians, physicists, and inventors; people working in medicine, and with robotics. I was so impressed by the creativity and diversity of the work getting done under the Thayer umbrella. When I asked, "Why are you here in the engineering department and not in the math/physics/medical/etc. department," the answer was inevitably, "Because I like to make things." Much of my understanding of what makes engineering (and Thayer in particular) unique came to be about this idea of application: making things that step out into the world and affect peoples' lives. This is reflective of music. Musicians often go off into a room to think and theorize by ourselves, but at the end of the day, we build something and share it with people.

The title, *Assembly*, refers not only to engineers (and composers) creating materials and building, but also the way projects bring people together.

As part of my work for this project, I wanted to involve the maker aspect of myself with the makers at Thayer. Along with Professors Ulrike Wegst and Vicki May, I designed a winter interim course called Acoustic Instrument Design. The students in the course made most of the instruments used in this performance. The focus of the course was on materials. We explored the forms and identities of many different materials and worked to frame them in ways that allowed their nature to speak. Many of these materials are already familiar to Thayer students as building materials, and the facilities of Dartmouth are as ready for instrument-

building as they are for any other engineering projects.

Assembly focuses on materials and construction. The three movements highlight three different categories of materials that have been used in musical instruments over time. The piece explores these materials and fits them together.

I. THE OLDEST MATERIALS

Bone, Grass, Skin, Swan Wing Bone, Mammoth Bone

The first movement, *The Oldest Materials*, was born from the discovery in the Geisenklösterle cave in Germany of three flutes: two made out of hollow swan wing bones and one carved out of solid mammoth bone. These flutes were initially dated to 35,000 years ago, but have been recently re-dated to more like 42,000 years old. These are the oldest musical instruments on Earth that we know of. Undoubtedly they were used contemporaneously with other materials that biodegraded much more rapidly, like animal skins stretched on drums and such grasses as reeds and bamboo.

II. WOOD

Rosewood, Boxwood, Pine, Pear Wood, Plum Wood, Tulip wood, Ebony, Oak, Pernambuco

Wood is the heart of musical instruments. It is ancient and modern and will never be obsolete. Many different types of wood are employed for the many different jobs of a musical instrument, from the supporting ribs and bridges, to the conductive soundboards, to tuned marimba bars. The properties of wood inform the instruments around us and the way sound is shaped by us.

In Europe, before colonists began bringing in tropical hardwoods, most instruments were made out of the dense wood of fruit trees. After

PROGRAM NOTES CONTINUED

wood began to be imported from Central and South America, snake wood and pernambuco became famous bow woods, and ebony took on many roles.

III. METALS AND POLYMERS

Copper, Gold, Tin, Bronze, Steel, Aluminum, Brass, Carbon Fiber, Nylon, Cast Iron, Titanium, Chrome, Tungsten, Silver, Zinc

It is remarkable to me how materials that were developed by people to make tools and buildings end up being used to make musical instruments. Different metals have widely different properties that are exploited by musicians and instrument builders to great effect (as the students of our course discovered). The newest materials on the scene, carbon fiber and nylon, are quickly working themselves into the heart of instrument production.

For the creation of this piece I am deeply indebted to Professors Ulrike Wegst and Vicki May. They have been supportive and enthusiastic in myriad ways throughout my time at Thayer, chiefly through co-teaching the instrument building workshop with me and handling all of the logistics to make it happen.

To Professor Wegst I am additional indebted for her research on the materials used in musical instruments. I continuously referenced her articles during the writing of this piece; the text, while it can't exactly be attributed to her, is drawn from her research.

A heartfelt thank you to Greg Elder and Jeff Georgantes, who run the Hopkins Center woodworking and jewelry workshops. Their expertise and patient guidance for our Acoustic Instrument Design students was essential to the success of the instruments.

Molly Herron *composer*

STEMArts

How do STEM fields—science, technology, engineering and mathematics—inspire music, and vice versa? With support from the Andrew W. Mellon Foundation, the Hopkins Center has been seeking to answer this question through projects bringing together innovative young composers with Dartmouth's world-renowned STEM faculty. STEM is an interdisciplinary and applied approach that is coupled with hands-on, problem-based learning.

"There are so many parallels between art and science," said Prof. Elizabeth Smith, Associate Dean for the Sciences. "In science, we observe phenomena, we see when X happens, B always happens—there's a pattern. We generate hypotheses and test them; artists do the same thing. They're observing nature, they're observing all kinds of things, and they're interpreting various patterns. There's an element of experimentation, uncertainty and surprise about the outcome."

Agrees Thayer School of Engineering Dean Joseph Helble, "Thayer's approach to engineering education really emphasizes helping students develop their creative potential. Not just to look up information in a textbook but to understand the entire problem and the tools you need at your disposal, in order to be creative and to develop an elegant solution. The arts do exactly the same thing: they allow students to imagine what hasn't yet been imagined, then go out and create it. Partnering with the Hop to develop an original composition and instruments is a brilliant and wonderful collaboration."

To date, STEMArts projects have involved emerging composers Fay Wang (2013-14) and Tristan Perich (2015-16), and, culminating today in this world premiere, Molly Herron. These

PROGRAM NOTES CONTINUED

commissions are part of the Hop's Mellon Foundation-funded initiative to more broadly engage students in the arts, especially classical music. The initiative has included substantive, multi-campus research that—among other findings—indicates that students more readily engage in the arts when they see the arts' connection to other academic areas.

This week marks Herron's fifth visit to campus to work with Thayer School students and faculty. And Thayer has taken the collaboration to a new place, generating last December a four-day intensive "Winterim" course in which eight Dartmouth students designed and built an array of musical instruments with Herron and two Engineering professors—Ulrike Wegst and Vicki May—experimenting with materials, sounds and structures not found in a typical orchestra. In fact, Herron's composition features these instruments alongside others.

"Ulrike and I are both tinkerers," said May, "and since she studies the acoustical properties of instruments, she's been really helpful in this

course. I've always liked interdisciplinary projects and students really gravitate toward them."

Most of the participants were first year students or sophomores just beginning their engineering programs. MacKenzie Kynoch '19, a percussionist who plays in the Barbary Coast Jazz Ensemble, said, "I'm really interested in acoustical engineering—and I think this was just the perfect class for me because it's putting my big interests and passions together." "The students accomplished a lot in four days," said Wegst. "The opportunity to build something and spend a bit of time at Thayer was wonderful. They grew and learned. And that is always what is most important." The Hop would like to thank our generous and supportive partners at the Thayer School.

Margaret Lawrence
Director of Programming, Hopkins Center

This residency was supported in part by the Barbara J. and Richard W. Couch, Jr. '64 Th'65 Hopkins Center Innovation Fund and The Andrew W. Mellon Foundation.

ABOUT THE ARTISTS

Molly Herron *composer* creates music inspired by the complicated, messy sounds of our every day environment and the energy of interaction. Her rhythmically driven work has been called "a beautiful collusion" (*Seen and Heard International*) and described as "showcasing a wonderful consideration of counterpoint and sound-in-time" (*I Care If You Listen*).

Herron has composed for a broad range of instruments, from full orchestra to flower pot, and her work includes pieces for film, theater and dance. She has written for The Jack Quartet, The Brooklyn Youth Chorus, Contemporaneous,

Quince Contemporary Vocal Ensemble, Concert Black and ECCE, among others. Her work has been supported by MATA, The Brooklyn Arts Council and the Copland Fund. She has had residencies with Exploring the Metropolis, Avaloch Farm Music Institute, La Pietra Forum and the School of Making Thinking; and her work has been presented on the American Composers Orchestra's SONiC Festival, the Fast Forward Austin festival and the Berlin Film Festival. Herron's music often veers outside of traditional western classical instruments. She works frequently with Baroque instruments and everyday objects, and collaborates with

ABOUT THE ARTISTS CONTINUED

instrument inventors to find new avenues for sound.

Herron is an active participant in the promotion of new music through performance, education and arts advocacy. She is a co-founder and artistic director of the composer collective West Fourth New Music, which has been producing concerts since 2010.

She received her masters of music degree in 2012 from The Steinhardt School at New York University. While there she studied privately with Joan La Barbara and Michael Gordon. She is currently a Ph.D. candidate in composition at Princeton University.

Justine Aronson soprano has premiered works by David Lang, William Kraft, Christopher Cerrone, Daron Hagen, Aaron Jay Kernis, Thomas Pasatieri, Fred Hersch, Nicholas Deyoe and Andrew McIntosh. Specializing in baroque and contemporary repertoires, she has appeared in concert as a soloist with The Lucerne Festival Academy, Bang on a Can Summer Festival, The Bard Music Festival, The String Orchestra of Brooklyn, Brightwork New Music, Princeton Pro Musica, Reno Kantorei, The Choral Arts Society of Philadelphia, The Masterwork Chorale and the Westminster Summer Festival.

Her 2016-2017 season includes performances with LA Phil's Green Umbrella series, Beth Morrison Projects, National Sawdust, Brooklyn Art Song Society, Mirror Visions Ensemble, and Art Song at the Old Stone House. Forthcoming commercial record releases include Christopher Cerrone's portrait album with *wild Up* and a Daron Hagen portrait album with the Lyric Fest of Philadelphia. Aronson will premiere the role of Bonnie in Andrew McIntosh's new opera *Bonnie and Clyde* with Los Angeles experimental opera company, The Industry. Along with Sarah

Goldfeather, she is one half of the bi-coastal voice-violin duo CIPHER, which champions new works by female composers.

Aronson enjoys continuing relationships with Opera Philadelphia, the New York Festival of Song, The Industry, the Brooklyn Art Song Society, gnarwhallaby, and wild Up, among others. In the traditional repertoire, she has portrayed roles including Oscar (*Un ballo in maschera*), Despina (*Così fan tutte*), Yum-Yum (*The Mikado*), Monica (*The Medium*), Nuria (*Ainadamar*) and Yniold (*Pelléas et Mélisande*). She divides her time between New York and Los Angeles, where she makes a home with her fiancé and collaborator, pianist Richard Valitutto, and their two small dogs, Hennie and Dingo.

Sarah Brailey soprano is in growing demand as a soloist and chamber music artist across all genres of music. She has performed Steve Reich at Carnegie Hall, John Zorn at the Guggenheim and Metropolitan Museum of Art, and with Kanye West and Roomful of Teeth at the Hollywood Bowl. Highlights of her current and recent seasons include Barber's *Knoxville: Summer of 1915* with the Colorado Symphony; George Benjamin's *Dream of the Song* with Lorelei Ensemble and Boston Symphony; *Zweite Dame* in Mozart's *Die Zauberflöte* with the Clarion Music Society; John Zorn's *Madrigals* at the Louvre Museum; Handel's *Messiah* with the St. Paul Chamber Orchestra, Charlotte Symphony, and Albany's Cathedral of All Saints; Costanza in Haydn's *L'isola disabitata* with the American Classical Orchestra; the world premiere of Daniel Felsenfeld's *Astrophysical Mass*; Bach's B Minor Mass with REBEL Baroque; Handel's *Samson* at Alice Tully Hall under the baton of Nicholas McGegan; Britten's *Les Illuminations* with NOVUS NY; numerous appearances with the Polydora Ensemble, a vocal quartet that specializes in 19th century

ABOUT THE ARTISTS CONTINUED

German art song repertoire.

Brailey is a core member of Boston's Lorelei Ensemble, an all-female vocal chamber music ensemble dedicated to the performance of early and new music. She is also a frequent guest artist with Grammy Award-winning alternative-classical vocal band Roomful of Teeth. She has worked closely with composers such as John Zorn, Steve Reich, Terry Riley, Merrill Garbus, Gabriel Jackson, Tarik O'Regan, Jesse Jones, Paola Prestini, Ralf Yusuf Gawlick, Scott Wheeler and Doug Balliett. Recent opera engagements include the American premiere of *Hércules en el Mato Grosso*, a new opera by Esteban Insinger, Pablo Ortiz's *Gallos y Huesos* with The Americas Society, Stefan Weisman and David Cote's *The Scarlet Ibis* with American Opera Projects, and Lera Auerbach's *The Blind* at The Lincoln Center Festival.

Andrew Munn bass is a dedicated performer and collaborative artist whose work spans canonical and contemporary opera, concert, and chamber works. In 2016 he debuted as a Young Artist with *Bel Canto* at Caramoor, covering Rocco and singing the Second Prisoner in Beethoven's *Fidelio* under Pablo Heras-Casado and singing *Il Pastore* in Rossini's *Aureliano in Palmira* under Will Crutchfield. He is a 2016 graduate of the Bard Graduate Vocal Arts Program under the direction of Dawn Upshaw and is continuing his training at The Juilliard School as a Graduate Diploma candidate. His teacher is Sanford Sylvan.

Munn works with composers and interdisciplinary artists to create works that shed light on the interrelationship of human and natural systems. He is collaborating with 2015-2016 Rome Prize in Musical Composition winner Nina Young and the Nouveau Classical Project to create *Making Tellus*, a cantata for bass soloist, female vocal

trio, chamber orchestra, and electronics that explores the advent and implications of our present geologic epoch: the Anthropocene. Munn's work as a performer, librettist, and co-producer of these works represent his conviction that in addition to a performer's aesthetic responsibilities, performers play a vital role in opening eyes, hearts, and minds of the public to forces greater than ourselves; be they geologic, divine, political, ecological, or personal.

Performance highlights include *Jesus in Bach's St. John Passion* with the Cathedral of All Saints in Albany and the bass solos in Beethoven's *Mass in C Major* with Concerts in the Village.

He is a graduate of the University of Michigan, where he studied with George Shirley and Stephen West. Additionally, he studied environmental science and humanities as a non-degree student in the School of Natural Resources and the Environment where he was a 2008 Graham Sustainability Institute Scholar.

TIGUE percussion, one-half new music ensemble, one-half art-rock band, unites homegrown ethos and conservatory precision. Formed in 2012, following their concurrent studies at both the Eastman School of Music and Ohio State University, TIGUE crystallized out of, and in spite of, the eclectic contemporary, pop and avant-garde influences inherent in their DNA.

TIGUE approaches the role of a performing ensemble with a unique fluidity—collaborating through multi-disciplinary work, commissioning and performing works by living composers, and simultaneously generating material of their own. In the fall of 2014, TIGUE worked closely with sculpture artist Michael Mercil developing an evening length performance piece, *Thoreau's*

ABOUT THE ARTISTS CONTINUED

Desk: Some Assembly Required, for the deCordova Sculpture Park and Museum's "Walden, revisited" exhibition opening. The work is part-music performance and part-live sculpture creation including an abundant use of power tools and the recitation of selections from John Cage's text on Henry Thoreau. In fall 2015, TIGUE teamed up with the conceptual percussion project of Kid Millions "Man Forever" to create and record a series of all-percussion pieces loosely based on the music of Moondog. The members of TIGUE have shaped a personalized compositional language that infuses traditional song forms and pop idioms with compositional complexity and

improvisation. Their debut album *Peaks* was released with New Amsterdam Records in 2015.

TIGUE is actively performing around the country with recent season highlights including appearances at the Ecstatic Music Festival, Constellation Chicago, the Noguchi Museum, the Greene Space at WNYC, the International Beethoven Festival, the Color Field Festival, the Frieze Festival, Roulette, Dartmouth College, The Ohio State University, The Kitchen, the Short North Stage, Le Poisson Rouge and National Sawdust. When using sticks and mallets, TIGUE proudly endorses Vic Firth.

CONNECTING ARTISTS TO THE COMMUNITY

While at Dartmouth, Molly Herron and Tigue joined students for dinner and discussion and visited classes at the Thayer School of Engineering. For more information on Hop Outreach & Arts Education, call 603.646.2010 or visit hop.dartmouth.edu/online/outreach.

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