CLASSICAL MUSIC INDY

NOTE

Music & Science

FALL 2021 | ISSUE 16

Contributors

CRYSTAL HAMMON is an Indiana-based freelance writer who specializes in content marketing and custom publications. She's a big fan of snail mail and loves to analyze dreams.

NICHOLAS JOHNSON, PH.D. is an assistant professor of musicology at Butler University, the musicology director of the Vienna Summer Music Festival and a local musician.

ALLISON TROUTNER is a freelance content marketing writer on the near east side of Indianapolis. The things that make her tick include her two toddlers, pink suede shoes and coffee in excess.

AMY LYNCH is an Indianapolis-based freelance writer and active vice president of the Midwest Travel Journalists Association. She enjoys live music and breakfast any time of day.

ELIZABETH FRICKEY is a master's student studying musicology at Indiana University. Her current research interests include music and gender, ecomusicology, and electroacoustic music and cognition.

MICHAEL TOULOUSE has worked in broadcasting for nearly three decades, sharing classical music with radio audiences throughout Indiana. As an experienced interviewer and program host, he is known for immersing himself in a subject to highlight the fascinating details that often go unnoticed.

KATHY JONAS is a freelance writer who lives in South Bend and Bloomington, with intimate knowledge of US 31 and SR 37 and all detours and road construction delays in between.

Music & Science

SPECIAL THANKS TO NOTE MAGAZINE COMMUNITY ADVISORY BOARD AND CONTRIBUTING STAFF:

Crystal Hammon
CONTRIBUTING EDITOR
Amy McAdams-Gonzales
DESIGNER
Lisa Brooks, D.M.A.
Lillian Crabb
Kennedy Douglas
Rob Funkhouser
Gregory Heinle
Lindsey Henry
Kyle Long
Stephania Pfeiffer
Eric Salazar
Michael Toulouse
Julian Winborn

NOTE magazine is a publication of Classical Music Indy.

To purchase print copies or access digital editions, visit www.classicalmusicindy.org.

For more information contact us at info@classicalmusicindy.org.

Dear Classical Music Fans and Friends,

Music and science are inextricably linked but can also feel very much apart. The arts, sciences and humanities reflect different courses of study, career pathways and emphases in school. This issue of NOTE explores the intersections where music and science meet and how bringing their unique differences ***together*** builds a stronger society for all.

You'll find stories about acoustics in venues and headphones, a pipe organ revoicing project, how musicians memorize, and mushrooms. You can learn about immersive music performances and try your hand at learning to listen differently. On page 22, ***My Music. My Story***. features Dr. Chandy John, an amazing example of someone who blends a lifelong passion for music with a career in research and medicine.

Nicholas Johnson, the host of ***Classical Pairings***, connects his podcast to CMI's ***Melanated Moments in Classical Music***. Turn to page 27 for a cocktail that celebrates this award-winning podcast and the dynamic co-hosts that shine a spotlight on musical works composed by, for, and about Black people.

And finally, Classical Music Indy is grateful to emerge from the pandemic immersed in new projects that transform how we present classical music in our community. One of these projects, CMI City Sounds, launches this fall through the incredible generosity of the Indy Arts and Culture Restart & Resilience Fund: An Arts Council of Indianapolis program made possible by Lilly Endowment Inc.

CMI City Sounds provides free, site-specific video performances at ten iconic Circle City locations anyone can access via QR code. These performances are making classical music more accessible to audiences by expanding the spaces and places the genre can be explored spontaneously — and on the viewer's terms. Scan the QR on the opposite page to learn more.

Classically yours,

Jenny Burch
President & CEO

CMI City Sounds

DISCOVER CLASSICAL MUSIC IN NEW SPACES

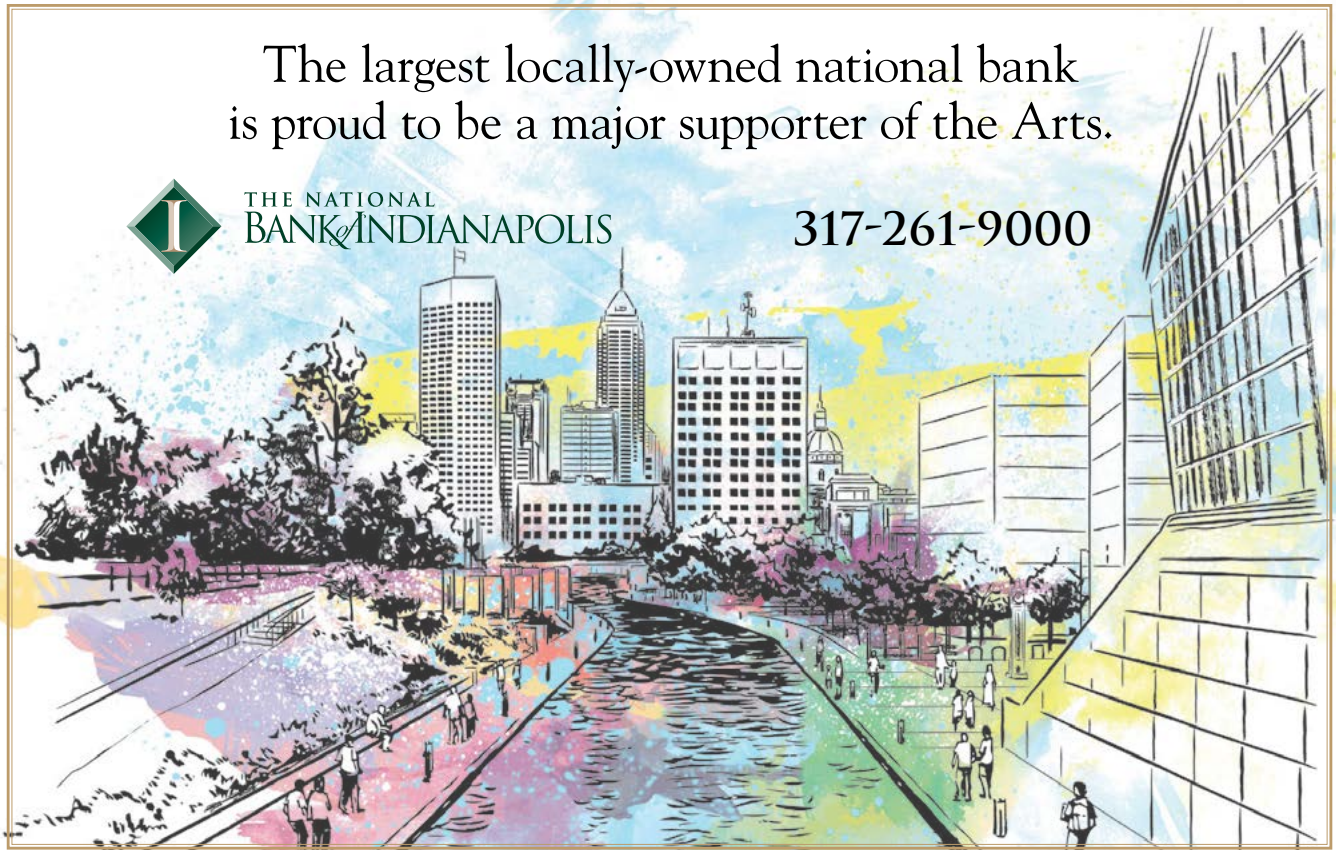
Scan to access music designed for iconic spaces in Indianapolis

CMI City Sounds is supported by the Indy Arts and Culture Restart & Resilience Fund: An Arts Council of Indianapolis program made possible by Lilly Endowment Inc.

The largest locally-owned national bank is proud to be a major supporter of the Arts.

THE NATIONAL BANK of INDIANAPOLIS

317-261-9000



©2019 The National Bank of Indianapolis www.nbofi.com Member FDIC

The Science of Sound

ACOUSTICS IN THE MODERN THEATER

Words by Nicholas Johnson, Ph.D.

Modern concert halls are designed to create the best possible listening experience for audiences, but that hasn't always been the case. For centuries composers had to cater their music to venues that weren't built for acoustic clarity, such as massive stone cathedrals.

Even in the first public opera houses in the 1600s, the focus was on how the musicians looked, not how they sounded. Stages were built narrow, deep and tall, with vast slopes. This ensured that the audience could see everything, even if the cavernous ceilings and stage depth made the music echo in muddy cacophony.

Architecture, sound engineering and math have contributed to a far more refined listening experience over the past century, according to David Wright, senior acoustics designer with IMEG Corp. A graduate of Indiana University in Bloomington, Wright has worked on numerous theaters across the country, including Clowes Hall and the Schrott Center for the Arts, both on the campus of Butler University.

Over the centuries, Wright explains, architects and engineers realized aural clarity in theaters was poor. In the early 1900s Wallace Clement Sabine began testing reflection times in a medical lecture hall at Harvard University. He developed a formula that allowed designers to predict acoustics and tailor the listening experience for the audience.

The modern practice of acoustics is a recent science. In the mid-1970s computers were first used to design acoustics, and later 3D room modelling technology allowed more refinement. Acoustic decisions should never be trial and error, according to Wright. "Design should be predicted in advance with no guessing," he says. "Then build it in."

Precision allows specialists like Wright to make profound changes, even in venues built long before room-modelling technology existed. Clowes Hall, for example, was originally designed for the Indianapolis Symphony Orchestra with a long reverberation time of up to three seconds — more comparable to a stone cathedral than a modern concert hall. By placing thicker sound-absorbing materials in strategic places throughout the hall, reverberance was reduced by half. Any more than that, however, would be too much, resulting in a hall that sounds lifeless.

Small changes, Wright says, can make a big difference. In Schrott, for example, simply moving the curtains can change the reverberance in the hall from 1.7 to 1.2 seconds. Likewise, changes in Clowes such as new lapendary drapes hidden above the concert clouds, now enhance the sound quality of the room for wider acceptance. Broadway loves Clowes these days.

There's more to modern acoustics, however, than simply reducing reverberation in the room. Timing a room with hard, diffuse surfaces, and influencing the placement and shape of walls are as important as any materials. Intelligent design, such as hiding the HVAC system within the inner workings of a building, also reduces ambient noise. Wright says good acoustics are exhilarating to the ear, but his job is best done when the audience is unaware of his efforts. "A tree fell in the forest, but most don't acknowledge it," he says. ■

Lifting an Organic Voice

Words by Crystal Hammon
Photos by Casey Cronin

From the pastoral to the powerful, a wider range of musical repertoire flourishes after an ambitious renovation of Trinity Episcopal Church's pipe organ.

It's no accident that the musical instrument most linked to churches, God and sacred music is almost indestructible. More apt to go out of style than to erode or decay, a pipe organ can last for hundreds of years. No improvements, no problem — unless you're a church in an urban area with enough interest (and money) to update your pipe organ to meet certain musical goals as well as contemporary aesthetics for sound.

That's the case at Trinity Episcopal Church in Indianapolis, where an almost 40-year-old organ, made by the nation's oldest and largest pipe organ builder, Schantz Organ Company, is being inaugurated this fall after a year-long revoicing project that began in July of 2020. Except for a new console in 2011, made by locally-based Goulding & Wood, this is the organ's first modification since it was installed at the church in 1983.

Made possible by a gift from David and Joan Lewis and a grant awarded by the Allen Whitehill Clowes Charitable Foundation, the revoicing was completed by Warrensburg, Missouri-based Quimby Pipe Organs. "We wanted to make the organ warmer, more vocal, more supportive of congregational singing and more representative of different schools of repertoire for organ and choir," says Michael Messina, D.M.A., director of music and organist at Trinity. "What we did was not a result of things wearing out, but about making the instrument sound and perform better, and adding some sounds that were missing from the original tonal palette."

Although the contract to revoice the organ was signed in 2018, Quimby didn't start until last summer, when many of the church's concerts and indoor worship services were canceled due to the pandemic. "While it was really hard to not have the organ last year, it would have been even harder if we had concerts and church services going on as usual," Messina says.

In the hands of skilled artisans such as those at Quimby, an organ's tonal aesthetic can be reshaped through physical modifications, and the replacement of pipes with others made in different shapes, sizes, and materials. Pipes can also be modified by raising the wind pressure, or changing the ratio between the width and height of a pipe's mouth.

Messina admires the revoiced organ's ability to toggle between a whisper and a roar. "It's the kind of sound that envelops you, and then, when you think it can't be any more thrilling, the rafters begin to shake, and yet another sound comes along," he says. "The word 'awesome' is such a cheap word these days, but an encounter with this organ as a sonic event is truly awesome. In the church, we are in the God business, and we're trying to create relationships with and comprehend the most awe-inspiring aspects of the universe. This instrument is truly awe-filled, awe-inspiring and awesome — both aurally and physically — because you can actually feel it in your body." ■

Trinity has launched a 2021-2022 concert series that showcases the newly-voiced organ played by some of the nation's most prominent organists, including David Higgs and Bruce Neswick. To learn more about the 2021-2022 Music at Trinity series, go to trinitychurchindy.org/music

Joe Nielsen, Quimby Organs, works on the Great 8-foot harmonic flute.

Crowning the King of Instruments with Grandeur

Words by Crystal Hammon
Photo by Casey Cronin

Joseph Nielsen tends to speak in analogies when he explains how a pipe organ works. “Think of it as a big box of whistles,” says Nielsen, a voicer at Quimby Pipe Organs who worked closely with Trinity Episcopal Church’s Director of Music and Principal Organist Michael Messina, D.M.A., to revoice the church’s organ in 2020.

Unless you understand the laws of physics, most comparisons about the modern pipe organ disintegrate quickly. What's more universally understood is the nuanced exchange between musicians like Messina and Nielsen as they conspired to change the sound aesthetics of a pipe organ that is approaching its 40th birthday.

Nielsen is a classically-trained organist who has been working with pipe organs since he graduated with a master's degree in organ performance from the University of Kansas in 2002. Quimby Pipe Organs hired Nielsen to help disassemble an organ on campus. Although he was just student at the time, Nielsen's work was exemplary, and he struck up a lasting relationship that allowed him to learn the craft alongside co-owner Michael Quimby and head voicer Eric Johnson, both respected veterans in the pipe organ industry.

One of the greatest challenges of revoicing an organ is working with the owner to articulate a clear and realistic vision for the organ's potential. Some aspirations are better felt than told. "A lot of musicians and organists hear sound in colors like green and blue," Nielsen says. "I don't hear color. I hear sounds that aren't associated with color. We often come together speaking different languages. It's a very subjective thing, and you have to bridge that language barrier."

One workaround, Nielsen says, is to ask the client to find an instrument that has the sound they hope to replicate. Even that isn't foolproof. "There's a saying in the organ business that the best stop on the organ is the room," he says. "The sound they [clients] love may be in a church with great acoustics — and the client's space is not that space."

Nielsen says every organ is different and has the capacity for a vast array of sound effects. "Michael had a certain stop on the instrument that he wasn't liking," he says. "But there was a sound in the pedal that suited him more." Quimby was able to transfer pipes from one location to another to get the right mix.

Invented in the eighth century and dubbed by Mozart as "the King of Instruments," the pipe organ started making its way into churches by the 900s and quickly became a central part of liturgical worship. The first pipe organs in America arrived during the 1700s.

The changes made at Trinity are reminiscent of instruments built in Europe and the United States from approximately 1860 to 1900, with elements of earlier periods coming through. Organs built in this period relied more on foundational tone, rather than upper work to reinforce the harmonics.

Various ranks used in the Trinity revoicing project were drawn from a treasure trove of like-new vintage pipes Quimby acquired through other renovations. These resources aid the voicer, whose goal is to unite the pipes, regardless of their lineage, as one harmonious family.

What makes a great instrument? "You want to take all these sounds, individual flues, and pipes, and shapes, and lengths, and make it so they all not only speak well separately, but also collectively," Nielsen says. "You have to get the pipe to speak at its optimal point of efficiency and clarity. If it's beneath that, the sound will be underwhelming and never reach its potential. If it's too much, then the pipe sounds strained and unpleasant. I know this sounds strange, but the pipe will tell you when it has gone to that point — and when it's left." ■

Learning to Listen

THE MUSIC OF PAULINE OLIVEROS AND ANNEA LOCKWOOD

Words by Elizabeth Frickey

As music lovers, we all think we know what it means to listen. Perhaps we put on our headphones, select a piece of capital-m Music, close our eyes and let ourselves become enveloped by the beautiful sounds we experience. Maybe we even arrive at a concert venue, find our seats and allow ourselves to become enraptured by the sounds produced by the well-trained musicians on stage. But what happens after the music fades or the curtain falls? Why does our mode of listening suddenly change?

It is easy to disregard everyday sounds as background noise in our normal listening environments. We often rely so much on other senses to guide us through the world that our brains begin to block sounds that constantly surround us. To some composers, the line between environmental noise and music is intentionally blurred.

Born in Houston in 1932, Pauline Oliveros was a founding member of the San Francisco Tape Music Center in 1962 and an early pioneer of analog electronic music. Despite the fact that her compositional career began primarily in creating electronic music, Oliveros was vocal about the influence of the sounds of the natural world

on her own musical development, especially the aural landscape of sounds she experienced growing up in Texas. Even one of her purely electronic works, ***Alien Bog*** (1967), mimics the sounds of frogs chirping and insects humming outside of her studio window.

On the other side of the world, Annea Lockwood was born in New Zealand in 1939. While Lockwood started her career studying a similar style of electronic music composition, she soon became bored with the systematic and predictable nature of purely analog electronic music. Impacted by her own sonic upbringing in New Zealand, she began experimenting with ambient and environmental sounds, even choreographing a sound art series of ***Piano Transplants*** (1969-82) in which old pianos were burned, drowned, beached and planted in an English garden.

Despite their geographic and stylistic differences, Oliveros and Lockwood expressed a mutual interest in composing through sonic awareness, and they soon developed a long-lasting friendship. Together, they continued to expand the boundaries of music composition into non-traditional territories. In the 1970s, Oliveros created the collaborative piece known as ***Sonic Meditations***, a series of 25 exercises in collective awareness and aural perception. This was highly influential to Lockwood as well, who in turn created her own series of meditation pieces more specifically intended for individual listening.

In an increasingly noisy world, it can feel overwhelming to listen to the world around us. Perhaps we'd rather retreat into a world full of sounds that we can control and block out the noise. However, as the works of Oliveros and Lockwood demonstrate, sometimes that noise is exactly the music we should be paying attention to. ■

Practice Listening

Try following the instructions given by Lockwood in her 1973 text score, ***Water Meditations***: "Go to a river. Stay there all day. Let the sounds change you and follow these changes." You could also try going for a walk in your neighborhood without headphones and take note of the sounds that you hear. Record your sonic experiences in a journal afterwards.

To follow in the path of Oliveros, try performing "Teach Yourself to Fly" from her ***Sonic Meditations***. By yourself or with a group get in a comfortable position. Start by observing the sound of your own breath. Gradually introduce your voice, allowing your vocal cords to vibrate naturally. Slowly allow the intensity of the sound to increase for as long as you'd like before returning to silence.

To learn more about deep listening, view Pauline Oliveros' TEDxIndianapolis presentation on YouTube, or explore The Pauline Oliveros Trust at paulineoliveros.us. Find Annea Lockwood's recent projects at annealockwood.com.

Music, Multimedia and... Mushrooms?

COMPOSER GABRIELLE CERBERVILLE EXPLORES THE CONNECTIONS BETWEEN ART AND SCIENCE.

Words by Amy Lynch • Photo by Gabrielle Cerberville

Composer, pianist and multimedia artist Gabrielle Cerberville has something interesting in common with pop star darling Billie Eilish. Both experience synesthesia, a neurological condition in which information that's meant to stimulate one sense actually incites several.

"For me, it's mostly color and sound," Cerberville explains. "It's like the wires in my brain end up getting crossed, so if I'm listening to a piece of music, I 'see' it as colors blending into each other and flashing across my mind. I can also sometimes 'taste' names."

For Cerberville, synesthesia actually supports the creative process, helping her explore the connections between music and science that inform and define her work.

Born in New York and raised in Pennsylvania, Cerberville earned her Bachelor of Music in composition and theory from Butler University in Indianapolis, and is now a year into pursuing her master's degree in composition at Western Michigan University. In 2020, she was one of several composers commissioned to write music for Classical Music Indy's Micro Composition Project.

Having played piano from a young age, she decided early on that composing seemed to be the most effective way to earn a living while being creative. "Creativity is my super power, and I've leaned into it," she says.

If she's not composing, Cerberville is likely to be found reading and learning about mushrooms, particularly underground mycelium networks that serve as pathways to connect trees and plants.

"Mycology has been occupying a lot of my time lately," she muses. "I find it a larger metaphor for my own practice. There are connections in so many things that may not seem obvious at first, but when you start really listening, you find that they talk to each other."

Always striving to find innovative new ways to tie her interests together, Cerberville completed a residency in Iceland, where she collected sounds from the area and retooled them into electronic music she then presented to an audience in a geodesic dome.

"I love transforming spaces and originally had this idea for pumping sound into an ice cave," she describes. "Unfortunately, it wasn't cold enough to build it, so I pivoted to the dome with the goal of creating an experience of being immersed in a specific space through sound. It was a seminal moment for me where I was able to expand my practice beyond just putting notes on a page and explore facets of who I want to be as a creative person."

Other residencies followed in New York and Indianapolis. In Michigan, Cerberville recently assembled a foraged dinner paired with found sounds she recorded around Port Austin on Lake Huron.

"There's an inherent music in nature," she says. "When you stand in the middle of a forest, there's motion. There's temporality. There's an order and predictability. Nature has really informed my musical practice more than anything else."

Cerberville's plans for the near future? To continue the journey she's already on.

"I want to keep exploring the connection between art and science, and finding new ways to present that to people," she says. "The more time I spend straddling both worlds, the more I realize they're really two sides of the same coin." ■

If memory serves...

CAPTURING THE POWER OF MEMORIZATION IN PRACTICE AND PERFORMANCE

Words by Amy Lynch

Strong memorization skills benefit musicians in many ways, but modern performers are now discovering that they're no longer the critical measure of success they once were.

"There's always been an expectation that musicians should play from memory for everything but chamber music or modern music, which harkens back to the Romantic era with pianists like Franz Liszt and Clara Schumann," says Clare Longendyke, D.M., a classical concert pianist and founder of the Music in Bloom Festival. "Those unspoken rules are changing. Now, it's more a matter of personal preference."

The advent of visually unobtrusive electronic devices to manage page-turning is another factor that's making memorization less necessary these days.

Professional violist and professor at the University of Arizona, Molly Gebrian, D.M.A., taps into her neuroscience background to apply learning and memory to musical practice, saying that understanding how the brain works makes her a better teacher. "There are three stages of memorizing," she explains. "Encoding introduces new information to your brain; consolidating moves the information from short- to long-term storage, a process that usually happens during sleep; and retrieval gets the information back again when you need it."

Clare Longendyke, D.M.

Molly Gebrian, D.M.A,
Photo by Carlin Ma

For Longendyke, memorization draws on all the processes she needs to perform at peak level. "Memory starts working from the first time I play through a piece," she notes. "If there's a deadline, that's when I really start digging into active memorization. I envision how the music looks on the page and test myself to understand where any hiccups are. Performance is also part of the memorization process; a piece is never fully memorized until it's been played for an audience."

"For musicians, the types of memory we rely on the most are muscle memory, or what it feels like to play something; aural memory, what the piece sounds like; and declarative memory of the actual notes and rhythms," Gebrian adds.

Both Gebrian and Longendyke say patterns make some pieces easier to learn by heart than others, with more deconstructed modern music being the most difficult to commit to memory. "***Etude No. 4: Fanfares*** by György Ligeti was hard for me because there are no patterns to grab onto," Longendyke says. "The integrals that harmonized the melody change beat to beat!"

"In Ligeti's ***Sonata for Viola*** solo, the second movement is called Loop; the music repeats like a loop, but the rhythm is different every time," Gebrian says.

To improve your memory at home, Gebrian and Longendyke recommend ditching the crutches of phones and computers and testing yourself without them. "Chunking is a great tool — arranging separate pieces of information together into meaningful units or 'chunks' to make them easier to remember," Gebrian says. "Phone numbers are a perfect example."

"If you're trying to memorize a poem, read through it passively at first and notice what sticks out to you," Longendyke says. "Allow yourself to just observe and create context, then challenge yourself to recall it."

Some studies show that testing your brain through memorization may even offer protective benefits against future development of Alzheimer's disease and dementia. "Memory is my daily brain exercise," Longendyke says. "It's so important." ■

Photo by Tony Vasquez, Vasquez Photography

Art From Every Angle

BIG TENT OFFERS AN INNOVATIVE AND IMMERSIVE PERFORMANCE VENUE FOR ARTISTS AND AUDIENCES.

by Allison Troutner

Since the 19th century, performance venues have remained largely the same: terraced seats facing center stage, guests positionally-fixed in their experience. In contrast, artistic mediums are evolving to engage multiple senses in new ways, combining music and video components.

Local artists Robin Cox and Ben Smith knew that creators needed a new venue to keep up with new artistic mediums, while also being accessible to any guest who wanted to visit. "There's so much diversity in art-making in so many ways, and yet, we're always experiencing [art] through a very small set of vessels like stereo headphones, looking straight ahead at a TV monitor or in a theater with a fixed perspective," says Cox.

Cox and Smith co-created Big Tent, an innovative performance instrument for artists, and an immersive experience for participants. Big Tent is an octagonal structure 40 feet in diameter and 13 feet high. It is comprised of eight video screens tethered together and hosts eight channels of VA speaker audio. The result is a 360-degree immersive video and audio venue, delighting guests from every angle.

The goal of Big Tent is twofold. It invites the whole human experience within artistic consumption and offers artists an instrument that couples audio and visual expression. Humans take in sound and sights from behind, beside and in front of our bodies. As we move through our existence, we adjust our bodies and our perspective.

"There are many possibilities for art-making now, for being in-person at the event, that can account for more than simply hearing things from a stage directly in front of you, or seeing things only from one singular perspective, irrespective of your peripheral vision, or your ability to move around," explains Cox.

For most installments, Big Tent is set up for a half or full day, popping up at festivals, theaters or parking lots. It was featured in the Festival of Lights in 2016 and Lotus World Music and Arts Festival in 2018. Big Tent's mobility is part of the innovation, notes Cox. "Usually, it's something you wander into and it's your choice how you experience it, in terms of your orientation or moving around or just being aware of your surroundings." From the moment you enter Big Tent, you are the beginning, middle and end of your experience.

Photo by Doug Bielmeier

Big Tent makes no presumptions about visitors or creators, who can come or who may want to. "We have tried to stay neutral in terms of what the content would be," says Cox. "This is more about not creating a box in and of itself, but an instrument, which you can make use of to create art you might NOT have been able to without it."

Big Tent was designed in response to the need for venues that encourage exploration of artistic mediums in inclusive, immersive ways. Cox hopes this is just the beginning for innovative performance venues. "I would like to think Big Tent and other solutions to these questions will actually bring forth, particularly for live presentation, more modern circumstances that are more reflective of modern life." ■

Learn more about Big Tent at www.thebigtent.org.

CMI City Sounds:

Discover Classical Music in New Spaces

by Crystal Hammon

Community engagement has always been a focus at Classical Music Indy (CMI). If anything, CMI's determination to work with local artists and promote new and traditional classical music has only strengthened since the pandemic began to squelch live performances of all kinds of music—indefinitely.

A newly-launched project called CMI City Sounds is one of many ways CMI has adapted to the "new normal," according to Eric Salazar, director of community engagement. "When it became abundantly clear that live performances weren't coming back for a while, we turned to performance video production as a way to keep the gigs going for local musicians," says Salazar. "We're not a big organization, but we rapidly gained some expertise to the point we felt like we could do larger video projects. We thought [performance video] added a lot of value, not just to the lives of the musicians, but to the community, as well."

It was exactly the kind of effort the Arts Council of Indianapolis wanted to underwrite through its Indy Arts and Culture Restart & Resilience Fund: An Arts Council of Indianapolis program made possible by Lilly Endowment Inc. CMI applied for and received a grant to create CMI City Sounds, a series of 10 unique take away shows. Part documentary, part video performance, the shows highlight local musicians performing a new and/or classical piece of music at 10 iconic sites throughout Indianapolis. Each site's performance video features a unique piece of music, artistically matched for the space.

Visitors interact with the performance videos via smartphone and QR codes located at each site. "At the time we were designing the project, we were still assuming there would be a lot of restrictions on the size of gatherings," Salazar says. "It's meant to be a way for people to safely get out and do something outdoors, much like a large-scale public event we might do at a venue for a new piece of music we commission."

Four of the sites (marked in bold in sidebar) feature works by local composers commissioned by CMI to write an original piece for the space.

CMI City Sounds installations will be released weekly throughout fall 2021.

Visit www.classicalmusicindy.org/programs/cmi-city-sounds to learn more.

CMI City Sounds Sites

Eagle Creek Park, performed by Sarah Page

Harrison Center, performed by John Alvarado

Downtown Canal, performed by Laura Recendez

City Market Catacombs, performed by Maya Nojiri Sutherland

Richard G. Lugar Plaza, composed by Eric Salazar for harp duo

Garfield Park, composed by Frank Felice for woodwind quartet

Circle City Industrial Complex, performed by Tricia Bonner

Tomlinson Tap Room, composed by Jared Thompson for trumpet, strings and piano

Indianapolis International Airport, composed by Eliza Brown for brass quartet

Central Library of the Indianapolis Public Library, performed by Shawn Royer

GOOD SOUND

INDY ACOUSTIC RESEARCH MERGES ART AND SCIENCE TO HELP HEADPHONE MAKERS DESIGN A BETTER PRODUCT.

Words by Allison Troutner

Before Forbes called Indianapolis a "mini tech hub" in 2016, before Salesforce moved downtown or 16 Tech broke ground on their urban innovation district, four acoustics engineers were carving a path in tech innovation. On the north side of Indianapolis, in the back corner of a nondescript office building, resides Indy Acoustic Research (IAR), an acoustic performance consulting and engineering firm founded by four former MWM Acoustics/HARMAN International acoustics engineers.

An anechoic chamber with wedges that absorb sound waves, a paneled soundproof room, and a sound booth with a head-and-torso simulator are just a few of the resources that make the small IAR office look like a military-grade research lab. It's one of the most expansive suites of acoustic technology in the state for testing acoustic performance.

"Very few consultants have an anechoic chamber and the capability to handle the range of products that we can because of our telecom history with Bell Labs," says Marc Reese, IAR co-founder and acoustics design analyst. The devices they work with, however, aren't the stuff of science fiction. Often, they are devices you use every day, like headphones, a growing $25.1 billion market.

New headphone features like active noise cancellation (ANC), Bluetooth®, or digital signal processing (DSP) allow listeners to immerse themselves in musical soundscapes, eliminate background noise and call mom hands-free. When brands like SteelSeries©, a gaming accessory company, bring a new headphone to market, they need a team that includes designers, mechanical, electrical and acoustic engineers, and software developers to consider advances in headphone technology.

Few businesses have the resources to house all these specialists full-time, so they turn to outsourced consultants like IAR to bridge gaps between design and engineering. Transducer design and integration are the bread and butter of IAR's work. Transducers are how headphones and speakers convert electrical energy (audio signal) into mechanical wave energy (sound waves).

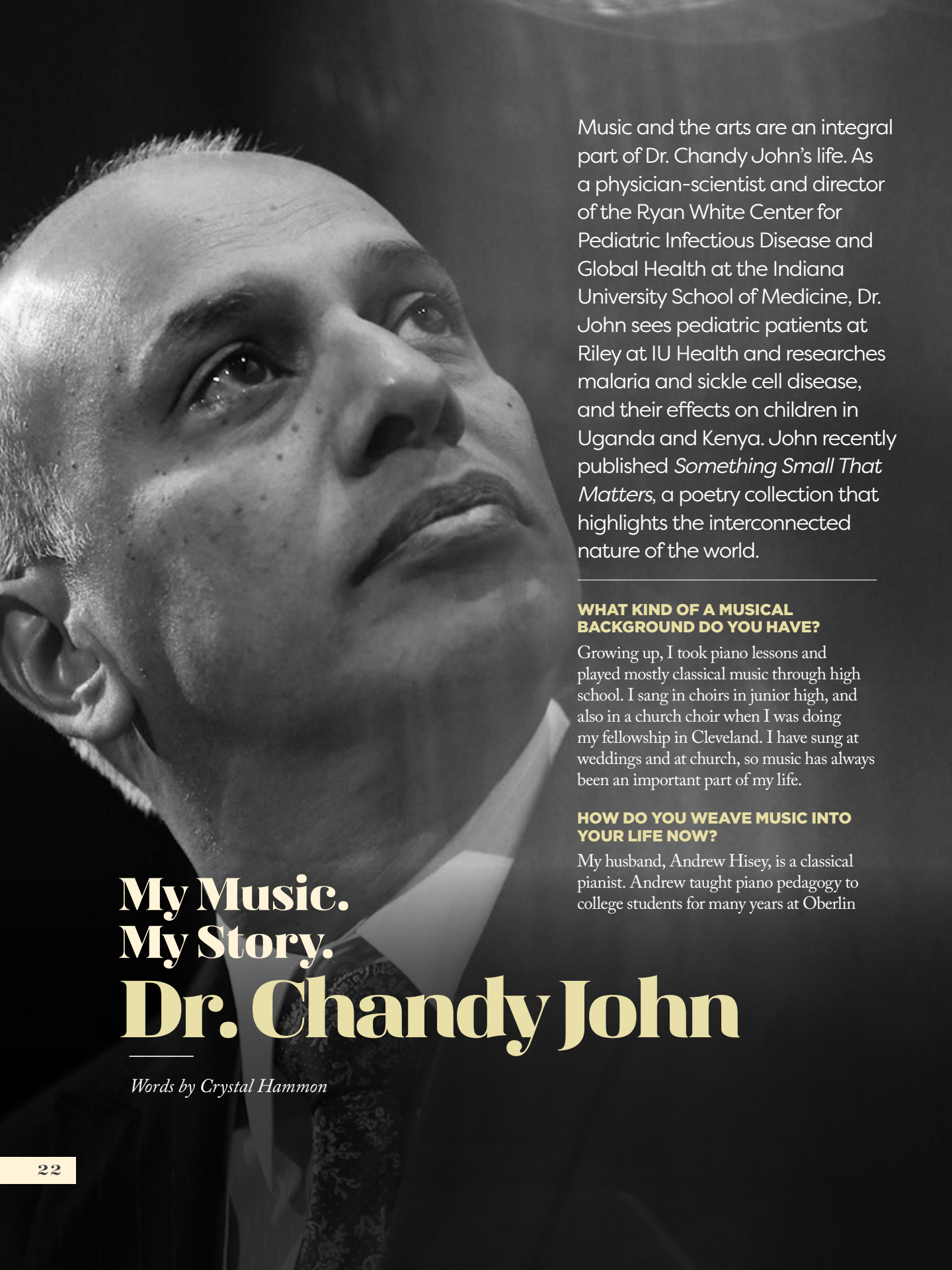
"Industrial designers sometimes use human factors and how people interact with the product, the colors, and how it should feel when you use it. But a lot of times they don't look at the physics," says Reese. "We do think that this is very heavy science, but we also have to step back and say this is part art."

The science is in the magnets, coils, materials and air spaces within the headphone driver that converts energy; the art is in adjusting each element to achieve the highest quality sound while allowing industrial designers to maintain a creative design that attracts buyers.

"[We figure] out what we can control and how much we can twist each knob to get a design towards what [the client] wants," says Reese. "Then we start tweaking those in a mechanical design as well, to get the simulation closer to where we want it." The designs for circumaural (over the ear) headphones will have different mechanical requirements than pocket-sized, in-ear AirPods®, for example.

IAR's work generates headphones that are comfortable, convenient and offer consistent quality and performance. "The expectation should be that you have good overall output level and balance," says Reese. "Really good headphones should sound good with any type of content, whether you're listening to music, video or podcasts." And good headphones are about attention to detail, not cost. "It's a knowledge of the acoustic airspace design and control around headphones. You can target a low-cost design and still make great-sounding headphones."

The team's favorite part of the process? Listening to the products once they're finished, says Reese. "We always listen to whatever we create because the ear is such a fantastic instrument of engineering." ■



My Music. My Story. Dr. Chandy John

Words by Crystal Hammon

Music and the arts are an integral part of Dr. Chandy John's life. As a physician-scientist and director of the Ryan White Center for Pediatric Infectious Disease and Global Health at the Indiana University School of Medicine, Dr. John sees pediatric patients at Riley at IU Health and researches malaria and sickle cell disease, and their effects on children in Uganda and Kenya. John recently published *Something Small That Matters*, a poetry collection that highlights the interconnected nature of the world.

WHAT KIND OF A MUSICAL BACKGROUND DO YOU HAVE?

Growing up, I took piano lessons and played mostly classical music through high school. I sang in choirs in junior high, and also in a church choir when I was doing my fellowship in Cleveland. I have sung at weddings and at church, so music has always been an important part of my life.

HOW DO YOU WEAVE MUSIC INTO YOUR LIFE NOW?

My husband, Andrew Hisey, is a classical pianist. Andrew taught piano pedagogy to college students for many years at Oberlin

College & Conservatory. He is constantly trying out new pieces and performs occasionally as a soloist and with a collaborative pianist, doing four-hands, two-piano duets. So, I hear classical music pretty much every day when I'm in the U.S.

Music is an integral part of my life, especially during COVID-19, when I've often worked from home. Andrew is usually playing music in the background while I'm working during the day, or at night when I'm reading. Having a very talented classical pianist in the house makes music a wonderful presence in my life. It has also introduced me to a lot of music I would never have heard otherwise because I don't have his knowledge of repertoire.

We have lived in some cities with fantastic orchestras. Pre-COVID-19 we went regularly to hear the Indianapolis Symphony Orchestra. In Cleveland, we had the amazing Cleveland Orchestra. And in Minneapolis, the Minnesota Orchestra is incredible. You have to have some listening experience with orchestras that aren't as good to understand what a very special experience a good orchestra can be.

WHAT IS YOUR MOST MEMORABLE EXPERIENCE WITH MUSIC?

One moment is almost primal for me. I was in fifth grade. In those days, you put a disc on a turntable. Then you physically moved the needle above the disc and pushed a little lever so the needle met the rotating disk. You would hear the music along with all the little hisses and cracks coming out of the speakers. There was kind of a physical reality to it that we don't get from all the streaming options we have today.

I found one of my parents' records and listened to the Billy Graham Choir singing the chorus of *His Eyes Are on the Sparrow,* which is a very classic, white, middle-American sound. There was just a little segue, and then the voice of Ethel Waters came in. The pacing was different, the timbre of the voice was different — everything about it was a wonderful juxtaposition to the choir. I just remember thinking "I've never heard anything like this before."

I listened to that track again and again. It was my initiation into an African-American style that cut through the very staid sound of the choir. It felt very deep and personal, and called me to be right there in that moment. That record started my lifelong love of the music of Ethel Waters, and it made me seek out other African-American performers. I discovered singers and musicians who spoke to me in a way that very few others did. In addition to Miss Waters, my favorite singers are Ella Fitzgerald and Aretha Franklin. They are both such extraordinary talents.

HOW DOES MUSIC OVERLAP WITH YOUR LIFE AS A PHYSICIAN-SCIENTIST?

The work we do in the sciences and medicine of decreasing infections and the complications of infections in children is meant to make their lives better and have them be in good health. The question is "What are they in good health *for*?" One of the reasons we want better health for children is so they can enjoy what's wonderful about the world, and music is one of those things.

The distinction that's often made between the sciences and the arts is artificial and somewhat sad. As someone who very much believes in the importance of facts, evidence, data and science, I feel that one of the unfortunate side effects of our pursuit of science is the emphasis on so called "practical" knowledge. We are not thinking about the incredible benefits of the arts, which are sometimes devalued because they may not deliver a concrete outcome like better health or prevention of death.

Of course, seeking better health is important, but having music and the arts is also vitally important. I feel very strongly that we should deeply value artists who contribute to a meaningful life for children and adults. Artists give us some of the greatest reasons to live. I view my work in science as facilitating a full appreciation of the arts. ■

MUSIC UNITES ARTIST

Grateful for the Growth

MUSIC UNITES ARTIST LAURA RECENDEZ FOLLOWED HER CURIOSITY AND MADE 2020 A YEAR OF PERSONAL DEVELOPMENT.

Words by Kathy Jonas

When Music Unites Artist Laura Recendez analyzes the myriad connections between music and science, one of her most prominent personality traits comes to mind: curiosity. "I am a very curious person, and I've pushed to maintain that as an adult," says Recendez, a flutist and piccolo player with several Hoosier orchestras, including the Carmel Symphony Orchestra, the Anderson Symphony Orchestra and the Lafayette Symphony Orchestra. "And I'm concerned about the loss of wonder and curiosity in our adult world."

Her four-year-old son, Milo, helps Recendez maintain that childhood wonder and innocence. From his presence on stage during rehearsals, to listening to baroque music together on the radio on Sunday mornings as he plays with Legos, Milo has changed almost everything in her life. "It has been amazing, and challenging, and a growthful experience," she says. "It really has been fun to watch him learn about music."

Recendez became interested in the flute at the age of 4 after seeing a street performer and was immediately smitten with the instrument. As a single parent, she exposes Milo to music, but allows him the freedom to plot his own course. He has been known to play an old flute of hers or even pretend with a straw as she rehearses at home. She notes that he has a very good sense of rhythm, likes to drum along with songs, and adores singing and dancing. More than anything, she hopes Milo develops an appreciation for music and learning through reading and exposure to different disciplines.

A self-described Type A personality, Recendez excelled in school, including science classes. She compares the amazement of watching a chemical reaction, for example, to the experience of recognizing a particular instrument while listening to a piece of music. As one of Classical Music Indy's Music Unites Artists, she worked (pre-COVID-19) with school children, exposing them to the arts.

The ability to listen, learn and create is only heightened by the removal of popular distractions such as television or social media. She doesn't have a television in her home and hopes more parents consider making that choice. "Milo is equally enthralled by an NPR program that combines fairy tales with classical music as he is with an episode of Paw Patrol," she says.

A native of Long Beach, California, Recendez is as down to earth with audiences as she is with her son. She prefers "flutist" to "flautist," as the latter can be a little intimidating to some. A recent trip to the park with her son hints at her expressive personality and stage presence. She was recognized by someone who had seen her perform Madama Butterfly at the Indianapolis Zoo. "The woman said 'You are so captivating. I watched you the whole time. You really caught my eye.'"

Recendez says her stage presence and energy are the result of enjoying herself, being authentic and becoming totally immersed in the music. "I am not a shy person," she says with a laugh. "I've always been that way."

Given her personality, it's easy to imagine Recendez as one of those people who felt isolated during the pandemic. Strangely enough, she says the experience of doing virtual performances was satisfying because it gave her the opportunity to reach a larger audience that watched or listened from the comfort of home. Among them are many people who are reluctant to walk into a concert hall setting. She credits Classical Music Indy with doing a lot to promote music during the pandemic.

Her natural curiosity did not dissipate during the past several months. "It really forced me to take a step back and examine what I value in myself as a musician and a performer," Recendez says. "It was a great reminder of the value of staying flexible, being creative and finding self-worth outside of external things. I was grateful for the growth and also happy to return to live performance!" ■

Music Unites Artists are an extraordinary group of local, professional classical musicians who bring the highest quality of performance and music education to Classical Music Indy's community outreach programs. Learn more about these artists at classicalmusicindy.org/program/music-unites-artists.

Classical Pairings & MELANATED MOMENTS in Classical Music

HERE'S A TOAST TO SEASON THREE!

Words by Nicholas Johnson, Ph.D. • Photo by Chloe Boelter

Classical Music Indy's award-winning podcast Melanated Moments in Classical Music shines a spotlight on musical works composed by, for, and about Black people. Here's a cocktail I created to celebrate the podcast's third season. Make yourself a beverage, sit back and enjoy co-hosts Joshua Thompson and Angela Brown as they explore the world of classical music in Melanated Moments, the podcast sibling to Classical Pairings.

THE PODCAST:

Melanated Moments in Classical Music

I enjoy the enthusiasm Thompson and Brown bring to each episode of Melanated Moments in Classical Music. Shining a light on musicians of color is an important and enriching project that enhances the whole musical world. One of this season's highlights is the first episode's guest, Dr. Rosephanye Powell, a composer and scholar of African American choral music. Later episodes feature discussions of Florence Price, Samuel Coleridge-Taylor, Harry Burleigh, Undine Smith Moore and Margaret Bonds.

One of my favorite episodes from Season Two highlights early 20th-century composer Robert Nathaniel Dett. On this episode, Thompson and Brown focus on the program piece ***In the Bottoms***. This suite beautifully pairs folk and classical themes, exploring the sights and sounds of the Black experience in America, which the co-hosts break down with characteristic clarity and enthusiasm. My favorite part of this work is the third movement, Honey, which tenderly probes the themes of celebration and apprehension. This playful, yet restrained movement allows tonal color and silence to shade an otherwise joyful expression. Or, as Thompson puts it, "Sometimes, silence is golden."

Before building the perfect cocktail to honor this show, I listened to several episodes and made a list of adjectives that summarize the podcast's approach to music and culture: fun, jubilant, insightful, sincere, energetic, unafraid and deep. Here it is, an approachable, compelling drink to match the vibrancy of Melanated Moments and its dynamic co-hosts.

THE COCKTAIL:

The Joyful Moment

1½ ounces rye whiskey (1205 Distillery or West Fork Whiskey both offer good local options)
1 ounce Montenegro Amaro
½ ounce Campari
½ ounce Benedictine
½ ounce Cointreau
3 dashes Bittermens Xocolatl Mole Bitters

Mix all ingredients in a shaker with ice and stir. Strain onto a large ice cube in a highball glass or serve up in a martini glass. Garnish with a Luxardo cherry. This drink is reminiscent of the classic Boulevardier. It highlights a blend of bitter orange and sweet cherry, capped with the essence of chocolate from the bitters. The nose and first taste are sweet and fruity, but the depth grows as the rye interacts with the bitters before finishing with bold overtones. ■

Find Nicholas Johnson's latest pairings at www.classicalmusicindy.org/cmi-video. These videos, part of the Classical Pairings Host Challenge, *are presented by The National Bank of Indianapolis.*

THE MACALLISTER SOCIETY

Classical music, forever.

The MacAllister Society ensures estate gifts and bequests are expertly managed through designated funds that expand classical music in our community.

CLASSICAL MUSIC INDY
THE MACALLISTER SOCIETY

Plan your gift to Classical Music Indy by contacting Jenny Burch at jburch@classicalmusicindy.org or 317-803-4544.

ON AIR:

The Play of Virtues

by Michael Toulouse

When the octogenarian Abbess Hildegard of Bingen wrote to the Prelates of Mainz in the late 1170s, she was out to defend music. Her religious community had been barred from singing in daily prayer as punishment for an infraction. Although she was an inspired composer who had written many of the melodies those women longed to sing, Hildegard pleaded her case like a scientist. She asserted as fact a theory she had already proved in music. That music was recently recorded by the Miami-based ensemble Seraphic Fire.

The abbess came with impressive scientific credentials. As the author of Causae et Curae and Physica, begun in the early 1150s, she was the first person of her era to write about disease, medicine and natural phenomena. Yet this new recording reminds us that Hildegard was also a pioneer in music. Her ***Ordo virtutum*** (Order of Virtues) is the earliest known example of a morality play, in which allegorical characters representing various virtues do battle with the Devil — the only speaking part. The religious community at Rupertsberg, which Hildegard established in 1151, probably performed it multiple times.

With the acoustics of medieval Rupertsberg now lost to history, Seraphic Fire Artistic Director Patrick Dupre Quigley decided to make this first-ever complete recording of ***Ordo virtutum*** in Goshen College's Sauder Hall. He also opted to add basic harmony at certain moments. Quigley made these and other choices with input from musicologist Honey Meconi, a noted authority on Hildegard.

Does ***Ordo virtutum*** call for such reverence? Hildegard would clearly have thought so, if her letter to those churchmen is any indication. She declared that music was a sacred gift — as inaccessible to the Devil as a foreign language. By going to such lengths to record her work (even traveling to Indiana), Seraphic Fire has shown an equal commitment. And the effort has been richly rewarded. ■

Michael Toulouse is the award-winning host of Anytime Classical, exceptional syndicated classical music radio programming 24 hours a day, seven days a week. Learn more at www.anytimeclassical.org.

LISTEN TO LOCAL

24/7 CLASSICAL MUSIC STREAMING

Support local artists at www.classicalmusicindy.org

CLASSICAL MUSIC INDY

For the latest playlists, podcast episodes, and events, follow Classical Music Indy on social media:

This issue of NOTE magazine is made possible by these generous donors:

ALLEN WHITEHILL CLOWES CHARITABLE FOUNDATION

WITH SUPPORT FROM: ARTSCOUNCIL AND THE CITY OF INDIANAPOLIS

CHRISTEL DEHAAN FAMILY FOUNDATION

INDIANA ARTS COMMISSION

NATIONAL ENDOWMENT for the ARTS arts.gov