



At the opening plenary session of the League of American Orchestras' 2019 National Conference in Nashville, young musicians in the Nashville Symphony's Accelerando Program performed alongside their teachers and Nashville Symphony players using Newzik technology.

Alan Peltz

Page Views

Digital technology has come to pervade all walks of life, from academia to banking, and COVID-19 has only stepped up the pace. But sheet music—the familiar paper score—has remained virtually unchanged for centuries. Are orchestras ready to make the jump to e-scores?

by Rebecca Schmid

Performing from digital sheet music is no rarity in today's world, at least for some soloists and chamber musicians. But orchestras are another matter: Coordinating within sections of musicians and across the whole ensemble is a complex process that has traditionally been powered by human dialogue, pencil, and paper. At the same time, the potential advantages to e-scores are numerous, so institutions are grappling with how to make the transition in a non-disruptive

manner for musicians, librarians, and administrators alike. As more orchestras have embraced tech due to the pandemic with streaming concerts, enhanced digital presences, and contactless ticketing, e-scores may be on the rise.

Publishers are picking up the pace. Universal Edition in 2019 unrolled UE NOW, making 1,000 items from its catalogue available for rental within Newzik's app. Boosey & Hawkes more recently upped the ante in a digital partnership called

dimusco; the platform already has some 40,000 titles available across iOS, Android, and Windows, with plans to include a range of publishers and eventually develop its own hardware. Many musicians, meanwhile, have the forScore app downloaded on their personal tablets, raising the question of which solution—in the unpredictable world of start-ups—will ultimately gain the most traction.

Hardware and software providers are slowly making inroads. European start-ups such as Scora and Blackbinder offer automatic scrolling functions that are meant to spare musicians the distraction of having to turn pages at all. The Japanese company Gvido offers glare-free screens through ink-based technology. The one player to have made significant impact in recent times is the Paris-based Newzik, which—rather than develop its own hardware—provides a custom-designed app, tutorials, and rental of iPad Pros, Apple pencils, and Bluetooth pedals. Highly visible institutions such as the Boston Symphony Orchestra and the Vienna State Opera have adopted their services, within a limited realm of activities.

Inexorable as the evolution toward digital may be, it will take place gradually. A survey of the Tonkünstler Orchestra in Austria, which enlisted Newzik for two test concerts, revealed that the orchestra musicians were split down the middle about the app's readiness to support the implementation of e-scores. While many players actually prefer to practice from tablets given the practicality of having hundreds of titles uploaded onto a single portable device, most are still not comfortable using the technology onstage given fears about technical glitches or crashes. The logistics and budget necessary to introduce a uniform system also pose huge challenges to librarians and administrators.

The low-brass players of the Boston Symphony Orchestra already perform from their own tablets, and at the 2019 Tanglewood Festival, the annual Boston University Tanglewood Institute training program for young professional musicians used Newzik's services in a concert for sextet. BSO Librarian Mark Fabulich says that the possibility of having bowings entered across a section with a single click is intriguing for "someone who spends hours a day marking changes, with eraser shav-

ings all over my office." But he also doesn't imagine the switch will happen overnight. "Do I see it as inevitable? Yes. What is the time frame? I don't know. It won't be five years. This transition that we're seeing within the Boston Symphony will be player by player, until it becomes so prevalent that more and more people get comfortable. The technology also has to get more affordable."

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At least as significant as financial considerations are the preferences of musicians. New York Philharmonic Associate Principal Trombone Colin Williams does not consider an automated system for entering markings practical because of individual approaches: "When you're in the middle of a performance, you've got a million things going on. Everyone is trying to concentrate on their own stylized shorthand." Having observed the extent to which his students prefer tablets to paper, however, he says that the next generation may bring a "critical mass of people who are more comfortable in the digital medi-

um. But an orchestra is like a huge ship; it doesn't turn on a dime. So it will take a little while for these ideas to percolate."

Williams believes that smaller orchestras without extensive library space and personnel could benefit from going digital. As more and more people own tablets, he also wonders whether it would be possible to integrate these personal devices "so that it won't be an institutional purchase." But a mix of paper and digital only creates more work for librarians, who have to oversee both handwritten and computerized markings. And an automated system such as Newzik potentially redefines the role altogether. Lawrence Tarlow, the New York Philharmonic's principal librarian since 1987, calls digital sheet music "a solution in search of a problem," asking, "Who will manage these systems? The



Kimberly Kraft McLemore, the Nashville Symphony's vice president of education and community engagement, says that using e-scores "falls in line with the future of classical music changing."



Angel Reverol, a flute student in the Nashville Symphony's Accelerando program for young musicians, shows his instructor, Leslie Fagan, assistant principal flute with the Nashville Symphony, how to use a tablet with a digital score during a rehearsal.

players themselves? Of course not. It'll be a new skill to learn."

Test Runs

After the New World Symphony tested Newzik in a chamber concert of eighteen players a couple of years ago, a survey revealed that 60 percent of the musicians involved believed the librarian should be responsible for monitoring the iPads and pedals. Alison Verderber, the Library Fellow at the Miami Beach-based orchestra academy from 2018 to 2020, called the experience "very positive" since the musicians—most of whom are in their mid-twenties—are generally tech-savvy. The organization planned to purchase eighteen iPads and continue its collaboration with Newzik, but Verderber cautions that "a lot of musicians aren't ready to make the change. I personally love paper materials, so would be very sad to see them go. But my responsibility as a librarian is to be as familiar with the technology as possible and be prepared for when musicians do decide that they want to switch."

While the prospect of receiving a clean digital score with one click may seem appealing in principle, Verderber points out that previous markings and edits—including the correction of misprinted notes—can get lost in the non-paper transaction: "When you have a rental set circulating, we all get to benefit from each other's

One orchestra administrator was motivated to introduce e-scores when a storm blew the paper scores off half the players' stands during an open-air concert.

work." But she acknowledges that technology presents potentially "limitless options. I think if there were a way for our edited materials to be sent back to the publisher and reviewed and adopted, that could be helpful."

At older orchestras like the New York Philharmonic, which performed its first

concert in 1842, a library's collection of parts carries the imprint of institutional memory. Tarlow recounts that during a performance of Scriabin's *Poem of Ecstasy* under Valery Gergiev not long ago, the initials H.G.—for Harry Glantz, the orchestra's principal trumpet during the interwar period and a major soloist of his generation—were spotted in the left-hand corner of the trumpet part. That's

a bit of musical history, passed down from hand to hand. Colin Williams says that during rehearsals for Stravinsky's *Firebird* Suite, an enigmatic double slash in the "Infernal Dance" turned out to indicate



New World Symphony

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Martin Dimov

A musician in Austria's Tonkünstler Orchestra makes notes in Newzik's e-score during tests of the app.



Chris Lee

New York Philharmonic Principal Librarian Lawrence Tarlow (left) and composer Peter Eötvös review the score for world premiere of Eötvös' new one-act opera in Cologne, Germany, April 2015, to ensure that the musicians' printed music reflects the composer's vision.

a very fast glissando rather than the trill most trombonists assume the composer desired.

One current barrier to making the transition to tablets is screen size. Aurélia Azoulay-Guetta, Newzik's co-founder and CEO, says that some symphony orchestra players are reluctant to switch because they are accustomed to playing on double B4 and other formats. Over 50 percent of musicians in the Tonkünstler survey said they would be more willing to play from tablets with larger screens. But the costs of renting or purchasing custom-designed tablets—which, unlike iPads, can only be used for one purpose—are prohibitive. Scora, which offers 17-inch tablets, has mostly soloists as customers, according to founder Jan Rosseel, with a large part of its business coming from the sale of magnetic tablet stands, although other product lines are growing.

The development of a viable conductor's score can be problematic. Scora sells 27-inch "Maestro" tablets but has yet to

forge a partnership with a major orchestra. Newzik has developed a 42-inch prototype using the Microsoft tablet Surface Pro, which was tested by the conductor Laurent Petitgirard with the Orchestre Colonne in France in late 2019. Christopher Widauer, chief business development officer with Newzik and former head of digital development at the Vienna State Opera, states that some conductors arrive with pocket scores or know the work by heart. He recalls that Christian Thielemann chose to conduct from Richard Strauss's premiere score of his opera *Die Frau ohne Schatten*. "We will always have a mixture" of different formats, says Widauer. "And why shouldn't we? This is not a religion. It's giving

our staff members and all people working with scores a convenient tool."

He reports that the stage managers of the State Opera have reaped enormous benefits from combining the audio, video, and text functions of Newzik's app into a multi-layered rehearsal book through



Tonkünstler Orchestra

The Tonkünstler Orchestra in Austria used Newzik e-scores for two test concerts. The orchestra's musicians were evenly split about the app's readiness to support the implementation of e-scores.

which they can connect in real time. But coordinating within an orchestra involves a host of unforeseen factors. Verderber recalls the challenge of clearing thirteen iPads and pedals between works during the New World Symphony's test concert, given the tablets' weight: "You want to be as careful as possible with pieces of technology, espe-

String players, in particular, are drawn to the e-score technology due to the ease of turning pages by pedal.

cially if you don't own them." Tarlow raises practical concerns, saying that if an orchestra were on tour and had to play in two different cities on consecutive nights, "when do the batteries get recharged?"

The Tonkünstler Orchestra developed, for its test concerts with Newzik, a charging station where 40 iPads, all of them numbered, remained onsite. The orchestra's head of administration, Samo Lampichler, was motivated to introduce a digital system when, during an open-air summer gala a few years ago, a storm blew the

music off half the players' stands. He says that in-person support proved crucial in the process of the move to digital scores: "The biggest challenge was to invest the time and speak with each individual musician in advance." Lampichler purchased 35 iPad Pros, receiving an approximately 30 percent discount through Apple Business. He considers it an advantage to stay at the forefront of digital developments "because if this technology were to be widely implemented in fifteen years, then we are at the steering wheel and can participate in decisions about which direction things go." He also believes that, once the musicians are playing from iPads, an orchestra is in a better position to innovate for education projects and introduce features such as augmented reality glasses.

New Frontiers

Kimberly Kraft McLemore, the Nashville Symphony's vice president of education and community engagement, says that using e-scores "falls in line with the future of classical music changing." At the opening plenary session of the League of American Orchestras' 2019 National Conference,

sixteen young musicians of its Accelerando Program, an education initiative for student musicians of diverse ethnic backgrounds, performed Chris Farrell's "Accelerando Overture" alongside their teachers and additional orchestra players using Newzik tech (Newzik covered the rental and program fees). McLemore recalls that, in a slight role reversal, the "students ended up training our musicians on how to use the technology. The Accelerando Program is about changing the face of American orchestras. What better way to go alongside that than to say that we're also going to change the technology?"



Chris Lee

New York Philharmonic Associate Principal Trombone Colin Williams does not consider an automated system for entering markings practical because of individual approaches, but says that the next generation may bring a "critical mass of people who are more comfortable in the digital medium."



The Knights

For a March 2021 recording session by The Knights at the Power Station in Manhattan, Eric Jacobsen (in white shirt) and a string quartet of Knights players (all masked and socially distanced) used iPads. The score was Anna Clyne's *between the rooms*, for a collaboration with the Los Angeles Opera and soprano Joëlle Harvey.



The Knights

At a family concert by The Knights at the BRIC arts center in Brooklyn, horn player Michael P. Atkinson, center, uses his iPad while the other musicians use printed scores.

Logistical challenges remain. McLemore recalls that in Nashville, Newzik's personnel were mostly busy keeping the iPad stands from falling over. Lampichler admits that players complained of headaches and sore eyes after reading from tablets, "which is easy to explain since rehearsal spaces are lit for paper music." Maria Stieger, who plays first violin with the Tonkünstler Orchestra, says that daylight alleviates the problem but recalls the "rather harsh yellow light" of the rehearsal space in the basement of the Musikverein in Vienna as "wearing in the long term." For string players who share a stand, one challenge is to find a level of brightness that works for both people. New York Philharmonic musician Colin Williams points out that in performance formats such as live accompaniment of film, a "glow coming off the orchestra" would be a distraction, while John Kieser, the New World Symphony's executive producer of media, says that iPads are actually a help when shooting video because there is no need for stand lights, making the job easier for cameras.

In a world that is increasingly dependent on digital technology, e-scores are the next frontier. With Newzik, users can import a YouTube link or insert a video remark

from a living composer. Cloud storage makes it possible to access material from any device. The COVID-19 pandemic has only expedited the demand for programs that allow institutions to function without its members sharing a common physical space, and there is no doubt that online libraries, performance via group video, and distance-learning platforms will remain part of our everyday realities.

At The Knights, the Brooklyn-based chamber orchestra collective founded in 2000, 30 to 40 percent of players are on tablets, according to Eric Jacobsen, who is the group's conductor, co-artistic director with his brother Colin Jacobsen, and one of its cellists. Eric Jacobsen, who is also music director of Florida's Orlando Philharmonic Orchestra and Connecticut's



Marco Borggreve

Boston Symphony Orchestra Librarian Mark Fabulich says he's intrigued by the possibility of having string bowings entered across a section with a single click via e-scores, but that the transition from paper to digital will happen musician by musician.

Greater Bridgeport Symphony, says that string players, in particular, are drawn to the technology due to the ease of turning pages by pedal. For a Knights recording of Beethoven and Brahms concertos with violinist Gil Shaham, Jacobsen worked off a mix of paper and forScore, which he considers very efficient for creating parts and sharing annotations. But he says that any time saved by technology must be used to dig deeper into the music, ideally with all musicians in the same room. "The orchestra is an imperfect organism, and there is something very beautiful and necessary about the interaction of humans during a sectional or conversation," Jacobsen says. "It can't be a check-out line with fewer people and more machines." **S**

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