INTRODUCTION

Lend Me Your Ears! Sound and Reception

WHILE I WAS VISITING Ohio University in the summer of 1975, a professor in the communications department broadcast an announcement on WOUB, the university radio station: Any kid who showed up on a specific corner in downtown Athens that coming Saturday at noon with a portable radio would get a free Big Mac. When the boys and girls showed up, a graduate student dressed as a drum major instructed them to tune their radios to the college station, where the DJ was playing records of marching band music. The grad student then led the kids, radios blaring, down the same route that had been used for the Memorial Day parade a few weeks earlier. At the end of the route they found themselves standing in front of the entrance to the local McDonald's, where lunch was waiting.

Sometimes art arises without artistic intent. The All-Transistor Marching Band had been designed as a class project in radio advertising. The professor seemed puzzled when I praised it as music. "But they weren't *playing* anything, they were just *listening*!" As a student of Alvin Lucier, I had spent the previous three years immersed in works such as John Cage's *4′33″*, Max Neuhaus's public sound installations, Murray Schaefer's writing on soundscapes and all manner of minimal music that demanded maximal listening. It goes without saying that listening has always been an essential component of music, and by 1975 was the focus of a number of experimental composers, but the articulation of listening as a *musical act* was still a rather fringe idea at the time—hence the professor's bemusement.

In the past 40 years, however, listening has emerged as a subject in itself and an increasingly prominent concern of creative artists. Listening habits and technology have changed radically in the past few decades: from live concerts, radios and home stereos to Walkmen, iPods, phones, Pandora and Spotify. Sound designers for movies and games make artificial worlds sound real. Computer scientists run listening tests to evaluate their latest music file compression algorithms. Phonography, soundwalks, gallery-centric sound art and focused listening meditation have expanded the domain of sound-craft beyond the traditional borders of music. Neuroscientists are digging deeper into the mechanics of music perception, while ear training in some music departments is starting to catch up with these innovations.

Edward Snowden's revelations have inspired "anti-listening" countermeasures—eavesdropping avoidance. Sound weapons deployed against protesters and pirates are predicated on sound so loud but so low in frequency that it is not heard as much as painfully felt. At the same time, we have started to regulate noise pollution and workplace exposure to high sound levels, and landmarks commissions are now taking into consideration the acoustic character of architectural spaces under review.

For this issue of *LMJ*, under the broad rubric "sound and reception," we solicited papers that address how people listen, how the reception of music and sound has changed, and how technology has influenced the listening process.

Several authors discuss the impact of emerging technologies on the listening experience in music and other forms of audio entertainment. David Prior describes the perception of virtual and augmented reality through speakers, while Jeroen de Vos and Miriama Young look at the role of binaural recording and headphone-specific techniques in music production. Ge Wang provides an overview of the integration of graphics with audio in computer music, gaming and apps. Raphaël Nowak's subject is the "deterritorialized" character of new audio media, while Marinos Koutsomichalis studies the effect of big data on the selection process of music consumers. Tim Anderson, by contrast, looks at the history of instructional and inspirational records.

Other writers focus on the role of listening in composition and performance. Maura Bosch analyzes musicians' accounts of the impact of "hearing something new" on their compositional processes. Doug Van Nort describes the critical role of listening in electroacoustic improvisa-

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tion, and Mat Dalgleish recounts how the instability of David Tudor's circuitry led him to develop new performance techniques that gave primacy to attentive listening over mechanical mastery—in marked contrast to Tudor's previous experience as a virtuoso pianist. Julian Day's works are propelled by attentive interdependent or relational listening between performers, while Camille Robinson investigates the contrast between active and passive listening in her sound installations. James Wierzbicki guides undergraduate students through performances of John Cage's iconic listening-centric composition, *4′33″*. Cathy Cox reviews changes in ear training pedagogy that have arisen in the wake of phonography, sound art and other "post-music" sonic practices.

A. Vandsø describes the relationship between technology and perception as seen through the evolution of listening machines, from tape recorders to computers, in the works of several composers. Abby Aresty's *The Listening Laboratory* is a sound installation that contrasts machine listening with human listening. David Kant's The Happy Valley Band performs scores generated by a computer's mis-transcription of pop songs.

Recording techniques form another thread running through this volume. Paul David Aikenhead examines the realism of the Cowboy Junkies' studio recordings from the late 1980s, while Elizabeth Newton shifts our attention from state-of-the-art to low-fi recording and listening. Johannes Mulder provides an overview of the "loudness wars" that have affected recording and transmission, especially since the advent of digital audio. Mark Peter Wright looks at the political implications of microphones in general and more particularly of surveillance devices such as Theremin's notorious bug in the American embassy in Moscow. Martin Knakkergaard discusses the role of digital audio workstations in constructing artificial soundworlds. James Andean looks at the rhythmic possibilities in the noncorporeal world of acousmatic music.

A number of our authors have left the studio for the great outdoors. Claudia Holanda, Pedro Rebelo and André Paz provide an overview of soundmaps. Hugh Livingston proposes uses for sound in planned gardens. Erik DeLuca describes a four-year research project in which dozens of citizen-scientists were asked to listen to and document the howls of individual wolves in the Isle Royale National Park in Lake Superior, Michigan. Michael Nardone provides an account of sonic disobedience in the round dance interventions by indigenous Canadians in shopping malls and other public spaces. Peter Todd analyzes Stuart Marshall's *Idiophonics*, a quintessential environmental performance piece from 1976.

Bill Bahng Boyer curated *Sonic Commentary: All Ears*, the downloadable audio companion for this volume of *LMJ*, featuring eight tracks by a dozen sound practitioners who focus our attention on listening as a creative act.

Readers, lend us your ears!

NICOLAS COLLINS
Editor-in-Chief
Email: <ncollins@saic.edu>.