

Turn On, Plug In, Groove Out

BY NORMAN WEINBERG

The fact that PASIC 2001's New Music/Research Day is devoted to percussion and technology is a milestone in the acceptance of electronic percussion as a viable performance medium. It seems appropriate to take a few minutes to reflect upon the path that brought us here, and to gaze into the crystal ball of the future.

WHERE WE'VE BEEN

While the roots of electronic music date back to the earliest days of electricity, its true birth is generally regarded as the "musique concrète" experiments of Pierre Schaeffer in 1948 in Paris. This form of music combined highly manipulated recorded sounds into new compositional frameworks. The most important aspect of musique concrète was that the composer created the final product directly, without the use or need for performers interpreting notational symbols with traditional musical instruments. Commonly known as "tape music," the final artistic creation was stored on magnetic tape and realized by playing it through a tape deck, amplifier, and speakers. When tape pieces were combined with live performers, percussionists were there, on stage with Cage and Stockhausen.

In the late 1950s, experimental electronic music moved from recorded sounds to synthesized sounds at the Bell Telephone Labs. At this time, synthesizers were part of huge computer systems, often taking up entire rooms and costing hundreds of thousands of dollars. The ability to create with these sophisticated monsters was limited to the lucky few who had music positions in industry or academia.

Timothy Leary's famous saying, "Turn on, tune in, drop out," came at about the same time that electronic music was turning an important corner. What was reserved for the very few was quickly becoming something that could be experienced by the general musical population. In the mid-1960s and early '70s, visionaries such as Robert Moog and Don Buchla were creating electronic musical instru-

ments that could be purchased and controlled by the average working musician.

When synthesizers were new, percussionists were there, programming LinnDrums and playing Simmons pads. This series of events ushered in the modern age of technology and music, and made it more possible than ever before for people to interact with current technology to create new musical expressions. Composers and performers could use the new technology in the studio and on stage to build totally new sounds or to manipulate acoustic sounds in real time. The democratization of electronic music had finally arrived.

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WHERE WE ARE

Music-making has always embraced technology. The technology of wood- and metal-working tools improved the quality and consistency of musical instruments. The technology of the printing press made possible the wide dissemination of musical compositions. The technology of the wax recording (and later vinyl LPs) created a revolution in the way people experience music. Today, technology is a synonym for the computer.

In the early 1980s, two roads merged that changed the way composers, musicians, and listeners would forever relate to music in their lives. One road was the creation and popularization of the personal computer. The other was the development of the MIDI protocol that allowed electronic musical instruments to "communicate" with the personal computer. The union between the PC and MIDI made possible sequencing software for digitally recording the physical gestures that make up a musical performance, editors and librarian software for the programming of highly sophisticated

musical synthesizers, notation software that offers engraver-quality results, and even "interactive" software environments that allow the computer to serve as an equal partner in musical creation.

During these highly experimental times, percussionists have continued to perform on computer-enhanced instruments. Drumkits, keyboard percussion, and even hand drums all have electronic kin. In fact, percussionists have been at the vanguard in support of alternate controllers that have no acoustic archetype (Zendrum, Thunder, and light beams to name just a few). Today, you can purchase a 24-track, portable, 100% digital recording studio (in either hardware or software form) that outperforms the most expensive studio of just a few years ago. The democratization of music continues.

WHERE WE'RE GOING

It's tough to predict the future—just ask anyone in the human resources department of a "dot com" company. However, it's safe to say that technological advances and new developments will continue to advance at a pace that increases exponentially. These new discoveries will certainly be applied to the craft of music creation and enjoyment.

I believe that this is good for music. Young people today have a more intimate relationship with computers than ever before. Every day, they listen to music that is the result of a union between technological and human performance. They have willingly accepted the fact that technology and music go hand-in-hand.

It's clear that VCRs in the home have made movies more popular than ever before. There's every reason to believe that the same phenomenon will repeat itself in music. Thanks to the Internet, the average high-school student has nearly instant access to thousands of recordings in every musical style from around the globe—more than even the most avid record collector of the 1970s. Whether we're in the concert hall, cruising the Internet, or hiking in the woods, we're listening to music. We are growing to be

a culture immersed in music.

For those of us dedicated to creating music, there are exciting prospects on the road ahead. Just recently, we've seen technological applications that have gone far beyond the idea of trying to "imitate" common acoustic instruments. Current electronic percussion controllers have advanced to the point where pads are sensitive to the stick's position on the head. Sound modules are incorporating incredibly powerful mathematical formulae to create a "physical model" that allows us to design fresh "acoustic" instruments. MIDI and digital audio programming possibilities (especially when combined with the processing and manipulation power of a computer) are quite sophisticated and can be used to create, design, and generate entirely new musical expressions.

Can it be long before our percussion controllers are more like a computer's touch screen with infinitely definable surfaces that have the ability to respond not only to the performer, but to themselves in real time? We are on the verge of computer-controlled musical environments that are so open-ended that they put no limitations on what we can do with sound. As computers continue to increase in speed, as the price of memory goes down, and as storage mediums become more efficient, the partnership of human, machine, and music will grow ever closer, and the results will be as wonderful and varied as our inspirations allow.

And percussionists will be there! **PN**