

Synthesizer & Symphony

By Ron Hays



THE BOSTON SYMPHONY ORCHESTRA

Michael Tilson Thomas, conductor
Les Noces Stravinsky
Daphnis and Chloe Ravel
Monday, April 2, 8 pm on 2 & 57;
simulcast on WGBH Radio and
WCRB-FM, Boston, and WFCR-FM,
Amherst

The second half of this month's Boston Symphony Orchestra simulcast is different . . . unlike just about anything

you've ever seen. What's new is that *Image* has been added to *Music*: abstract electronic art—the creation of WGBH's Ron Hays—accompanies Ravel's *Daphnis and Chloe* for most of its forty-seven minutes, and the result is quite literally stunning. At intermission, Hays and conductor Michael Tilson Thomas briefly discuss Hays's image-making techniques, but we felt that Prime Time readers might want a bit more background. This article should add to your enjoyment and appreciation of an extraordinary program.

As I listen to music, I see images in my mind—and I know this happens to other people as well. But several years as a television and film producer/director taught me that techniques existed that might take me at least part way toward realizing these mental pictures. Film and/or video can generate an infinity of images, some close to one's inner visions, others completely the creation of film and video technology, but all potentially useful and frequently fascinating.

At the moment, our image-making ability is rapidly expanding: television electronics, computer image instruments, photography, film processing—and now video synthesizers and/or video image instruments, which are capable of producing a wide range of image configurations *within* themselves (whether changed objective images from the “real” world or wholly non-representational images from man-made electronic worlds).

We're all familiar with electronically generated flip-flop-turn-around commercial trademarks and station breaks, or with out-of-focus wobble lines that indicate the onset of a “dream sequence” or simply the transition to a new part of a program. But if electronic circuitry can sell us things or cue us for a transition, why can't we also use it for sheer visual entertainment? Well, we can.

A matching grant to WGBH from The National Endowment for the Arts gave me the opportunity to come to Boston to begin (with the WGBH staff and participating artists) an exploration into relationships between music and the images produced by film and television technology. This project, the Music-Image Workshop, is an ongoing series of experiments designed to formulate a common “grammar” and framework that can be used by film and video artists in the process of creating and putting moving images to music. The workshop is also supported by the WGBH Project for New Television (thanks to support by The Rockefeller Foundation).

After several weeks at WGBH, I de-

Ron Hays is director of WGBH's Music-Image Workshop.

cided the Paik-Abe Video Synthesizer would be my basic abstract image-making instrument and primary tool for experimentation. The Synthesizer is essentially an optical color generator, capable of taking the inputs of multiple black and white cameras and audio generators and transforming them into an infinite number of colors, designs and patterns. It should be emphasized that the Synthesizer has *no* direct hook-up to music or sound waves—it is manually operated, producing images of the artist's choice. This aspect of personal choice is what makes its possibilities for use so limitless.

The Video Synthesizer is the result of a Rockefeller grant that allowed Nam June Paik, a major video pioneer, to come to WGBH as Artist-in-Residence in 1968. With the encouragement of Michael Rice and Fred Barzyk, Paik and Japanese artist/engineer Shuya Abe designed and built the Synthesizer over the next year. The occasion for its initial broadcast appearance—in August, 1970—was Paik's four-hour *Video Commune*, assisted by staff director David Atwood. Since then, it has been used for special sequences in a number of productions.

When I first started working with the machine I learned how to generate new images I liked. Using music as inspiration, I began a long process of learning first *IF* and then *HOW* more of these images could be reproduced. Periodically David Atwood would stop by, answer questions and show me how to produce various images with which he was familiar. Nam June came up to Boston several times and gave me advice. A local video group taught me what they knew about feedback, and I studied reports about it from the National Center for Experiments in Television. Then I started teaching myself.

After several months, I had taught myself as many different ways to create images as time and patience would allow. By working very slowly, I started making (or finding) a myriad of powerful images I had never seen before. Some were beautiful, some more beautiful, some most beautiful; going after *THE* most beautiful became my central goal. At first, the images were elusive—incredibly difficult to develop and re-

fine. I wanted to be able to recreate their beauty at will for other people.

At this point it was obvious that the Paik-Abe's potential visual configurations were so incredibly vast in number that some sort of discipline was demanded; some order and time structure had to be imposed if the results were to be enjoyed as anything beyond endless changing images.

One day, Brice Howard from the San Francisco-based National Center for Experiments in Television stopped by, and I showed him a "more beautiful" image configuration. He said, "Fine . . . now begin thinking what comes *before* and *after* that image." Images were all right seen by themselves, he said, but video image machines like this one offered the possibility of creating "imagings" in organic sequence.

Exactly. I had the answer already in the knowledge that music could provide the underlying discipline. Just as a phrase or line of music motivates the artist's selection of a particular moving image, so the succession of phrases in a given score influences the order and development of different images throughout the entire piece. This is far from an automatic relationship, however; in the end, the choice of which moving image configuration appears at a given musical moment is, by whatever artistic sense I can call on, mine to make.

I'm often amazed at the similarities between the way Thomas Wilfred, a "light sculptor" who worked with incandescent bulbs, mirrors and lenses in the 1920's, talked about his "lumia" techniques and the way we were beginning to use video images. He defined the art's basic ingredients as form, color, and motion in a dark space. Wilfred's main goal was to add the missing third dimension to a flat screen—to create it so convincingly that the screen would become a large window opening on infinity. Yet the most original contribution he made was the addition of a *fourth* dimension—time.

"One of the greatest difficulties a person has to overcome when he turns to work in lumia," wrote Wilfred, "is that he is likely to think in terms of static images when he is to create a constant flow, an uninter-

ed visual sequence—that he cannot seize a 'fleeting moment' in a lumia composition because it has meaning only as a link between what has been seen and what is to follow."

After seven months, I discovered a methodology that allowed me to choose freely those movements of light and form that worked well together with music and each other. I absorbed a sense of the instrument's controls: I reached the point where I could combine the individual variables—the brightness of outlines, the intensity of color, the frequency and amplitude of wave forms, the shape of patterns, and (most importantly) the visual feedback from the many cameras focused on their own monitor screens—where after much rehearsal I could combine *all* these things in a single effort/performance to produce (and reproduce) the music-image flow I wanted.

The complexity of this process required that I create my own notation symbols, to be used in writing down video scores to music; altogether, this approach allowed me to "play" the video synthesizer as one would a musical instrument. The time had clearly arrived to try its possibilities in a broadcast situation.

The results can be seen in the Boston Symphony Orchestra telecast this month. The concert is not live; it was videotaped in February. But we decided to test the synthesizer in "real time," and all of the images that you'll see during Ravel's *Daphnis and Chloe* were created in the course of the actual musical performance, and recorded simultaneously.

The preparations were fairly extensive, requiring first of all a detailed analysis of the score with producer Jordan Whitelaw and mutual agreement as to where orchestral camerawork could best complement the music. This last was particularly important, because the sheer complexity of the synthesizer's many controls and camera positions make it impossible to switch quickly from one basic image-flow to another; in at least one instance, the setting-up time would be more than five minutes.

Then came the by now familiar process of image finding and discovery, which meant more exploration of the

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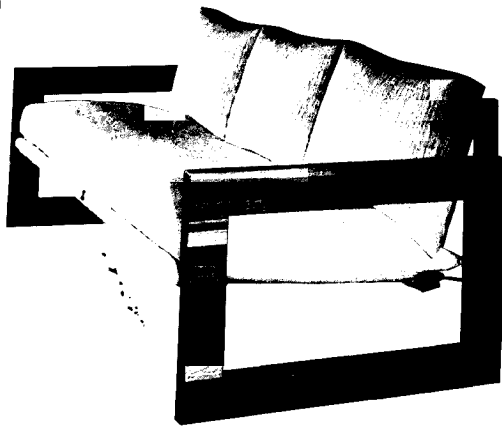
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machine and an evaluation of each image's potential: by itself, in combination with other images, and in relation to music. I had to decide upon the exact placement of the music-image sequences, upon their order and duration. And I had to rehearse the moving of each image-combination in a way that best reflected its special qualities, yet considered the needs of the musical passage it accompanied. All this took several more weeks of work.

The night of the concert, the WGBH cameras followed the orchestra through *Daphnis and Chloe* as they had through the rest of the program, and I could see the course of the piece over a monitor back at the station, where David Atwood and I were working, along with Peter Fink, who was helping to generate some special forms. Like Jordan Whitelaw, we had a musical score-reader giving us letter cues, which in our case corresponded to my own video score notation. While the BSO picture and sound were recorded on one videotape machine, the synthesizer's output was recorded on another—with the music, so that in editing it would be easy to synchronize both tapes.

The exact mix of orchestral shots and synthesizer imagery that you'll see was arrived at days later. After considerable consultation, Jordan, David and I arrived at definitive timings aided by use of half-inch videotape dubs; and David supervised the final mixing process.

Most people tend to regard the television tube with about as much artistic curiosity as they bring to the family car; it's taken for granted. (The response to images on a movie screen is less casual, because the viewing conditions are so different.) Watching the new forms of video art in sitting-at-home environments will be an entirely new way of "seeing"—it may be more like looking at a painting or enjoying a sculpture than like following a story. It will require an entirely new attitude on the part of the viewer, but one which I hope will be quickly rewarded.