CHAPTER 4

THE ANALOG WORLD: WHAT IT IS AND HOW TO GET THERE

I'm Skipping this Whole Section for Sure

Perhaps there's a reasonable question lurking in your mind as you begin to explore the Analog World: "Why should I? I've already been/always wanted to be recording/sequencing/processing/sampling/virtually-whatevering using digital gear. I want to get right to the problem of figuring that stuff out, rather than wasting time learning older technology that I'll never use."

Here are three reasons why you need to understand the architecture of the Analog World:

- First, you *will* work in the Analog World, and are probably doing so already. Into the foreseeable future the Analog World will link the Acoustic to the Digital, and vice-versa. The link may be a short one, but it's there. Understanding these links between the Worlds will help you figure out where the trouble lies when things go awry.

- Second, the Analog World hasn't become obsolete after all. While the great majority of sound work is now carried out digitally for practical and economic reasons, at the highest levels of quality, budget, and art, analog equipment is often used by choice. This is not a holdover to history and habit, but springs from some inherent advantages. There are strengths and limitations in all three Worlds, and you need to understand them all well enough to make informed choices.

- The third and most compelling reason for a digital artist to learn the nature of the Analog World is that makers of digital equipment *expect* it, and design accordingly. This is a tried-and-true method of introducing new technology: use the visual and organizational metaphor of a previous way. A fundamentally new and different way of doing things is often widely accepted only when it is designed to interface with humans in a familiar manner, with a comfortable look and feel. Users can then build expertise from skills they already have.

A great example of using old metaphors in new technology is the analog synthesizer, developed in the 1960s. The first commercial success was the Moog synthesizer—indeed, the two words were virtually inseparable to the mainstream music public for many years. It wasn't the first synthesizer, nor (some would argue) even the best, but it could be understood by musicians because its interface design was reminiscent of that of the organ. You see, there's no inherent reason for initiating electronic sounds with a piano-style keyboard. For one thing, it strongly encourages boxing sound art into 12 chunks (notes) to an octave. Also, a traditional keyboard has no means of changing the sound once you start it. In these senses a keyboard tends to stifle creativity and limit choices. However, the genius (and luck) of Robert Moog was that he changed this apparent limitation into a strength. Musicians could understand the Moog synthesizer, and a huge population of keyboard players already possessed the (physical) skills to perform on it. The oscillators (sound building blocks) even had octaves labeled like organ pipes: 32, 16, 8, instead of by hertz or some other technologically useful measure unfamiliar to musicians. The Moog was used to perform familiar music organized into familiar chunks, and *Switched-on Bach* by Wendy (nee Walter) Carlos became the runaway best selling classical recording of the time. The musical world—commercial and academic—beat a path to Robert Moog's door (including a young, wide-eyed yours truly, nose figuratively pressed against the window). There were other wonderful machines being built, notably by Donald Buchla, but initially without keyboards. A few composers did groundbreaking work with them, but the Moog synthesizer with its comfortable keyboard ushered in the synthesizer revolution. Ironically, the keyboard of the analog synth as it evolved has now become the most common digital synthesis interface, again for no reason other than the familiarity of its concept.

As we shall later see, there is no inherent need for digital devices to use these familiar and somewhat limiting metaphors, and in the beginning

they didn't. However, the Technology Curve we explored in Chapter 1 demands an ever-higher number and complexity of procedures for work in the Digital World. In each arena of modern society—business, science, art, communication, entertainment, marketing—the Digital World entered as a mysterious new concept, understood and used by a very few souls who adapted their thinking to its fundamentally different nature. In each case however, the Digital *Revolution* occurred when computers began to interface with people on their own familiar turf: typewriter keyboards and television screens with symbols for desktops, trash bins and folders. The familiar turf of sound technology is the analog studio, and today the Digital World is made to *appear* like the Analog World, but now it's on a TV screen. Inherently digital control interfaces are slowly making their way into our intuitive perception, but the old metaphors will not go away, so we must embrace them. Thanks for not skipping out; onward we go…

and continuing...

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