

# Digital Technology and Truth

## By David DeBoor Canfield

Having just retired from a rewarding 38-year career in selling old, out-of-print records, I have often been asked by non-collecting friends why anyone would want to listen to “those scratchy old records.” The unspoken insinuation is, “Why would anyone forego all the technological developments in the reproduction of sound over the last several decades?” There are several reasons beyond the scope of this article that dictate why collectors retain an interest in these older recordings. However, one important reason, the focus of this discussion, would not occur to most: Analog recordings are *true* in a way that digital recordings seldom are, and paradoxically, the oldest records tend to be the truest. It should be understood that the term *true* herein refers to the comparison between what the artist played or sang in the recording studio and what is heard on the issued record.

To understand why this should be the case, one needs to know a little bit about the history of sound reproduction. In the earliest days of commercial recording in the waning years of the 19<sup>th</sup> century, recordings were made directly onto wax cylinders, and slightly later on wax disk masters. The recording artist would stand in front of a recording horn and begin his performance upon the engineer’s signal. Because of the limitations of the acoustic recording process (which involved no electrical amplification), distant sounds could not be captured very well. Recording sessions of larger ensembles resembled comical games of “musical chairs,” wherein each person with a solo to play would have to rush up, instrument in hand, to the proximity of the recording horn while the person who had been there hurried back to his seat in the ensemble. Regardless the size of the recording forces, each selection would have to proceed all the way through to its conclusion, with no stopping or restarting. If a bad mistake was made, the wax master would be scrapped and the recording would have to be begun anew. Fortunately, with side lengths of records in those days running no more than about four minutes, this process was not quite as tedious as it might sound.

Around 1926, the recording horn and acoustic recording process were superseded by the microphone and electrical recording technology, which simplified the recording process in some respects and produced a greater musical and dynamic range of sounds. Nevertheless, in the entire 78rpm era, which extended up through the late 1940s, there was no possibility of *editing* recordings. What was recorded was what was issued, presuming the artist gave his consent, because there was no way to change the tracings of sound engraved in the wax master, once recorded. The drawback of this process was that sometimes minor—and not so minor—flaws in the performance would appear on the released record. On the other hand, what one heard on the record, despite the sonic limitations of the recording technology of the day, was exactly what the artist played or sang, and permitted collectors to accurately assess and compare the merits and deficiencies of various artists.

In the 1940s, the recording industry began to utilize magnetic recording tape, a medium that captured a wider range of musical frequencies than heretofore possible. More importantly, the use of tape afforded the possibility of editing a recording. A performer who botched a particular passage could now re-record just the flawed section and the recording engineer would snip out the bad part and splice in the retake. If done skillfully, the edit would not be audible, even

though one could easily examine the master tape to determine that an edit had been made. In light of the fact that the side length of an LP, the new vehicle for recorded sound that appeared in 1948, was five or six times that of the 78 disk, such editing possibilities proved very beneficial in reducing stress levels of performers who would otherwise have had to play a lengthy piece perfectly from beginning to end.

These editing techniques produced “better” finished recordings—but only in the sense that they were note-perfect, even if continuity and spontaneity were sometimes sacrificed. Extraneous sounds, such as a violin bow being inadvertently tapped against a music stand, could also be edited out to make the finished product as palatable as possible to the consumer. However, recordings made using these techniques were less “true” than their predecessors of the 78rpm era. Few LP sides were recorded in single unedited takes; *any* editing meant that the record would not as faithfully present the sounds that the performers had actually produced. It may certainly be argued that editing can produce a recording that is truer to the piece of music being performed, since musical and technical flaws may be excised. This perspective, however, leads into the thorny philosophical issue of whether music truly exists when it exists merely on the printed page unperformed.

The often heavily-edited recordings of the LP era gave rise to some amusing stories. One such occurred at the end of a recording session of a Beethoven piano concerto, the soloist in which was the Viennese pianist, Paul Badura-Skoda. Listening to the splice-ridden master tape at the final playback session just prior to the tape going to the record pressing plant, Badura-Skoda is alleged to have leaned back and sighed, “Ah, what beautiful playing—what a glorious performance!” Hearing his *sotto voce* comment, Hermann Scherchen, the conductor of the concerto, could not restrain himself: “Yes, it’s wonderful, Paul—don’t you wish *you* could play like that!”

Although fidelity to reality in the LP era may have been tarnished and varnished, anyone listening to these records knew that at least *at some point in the recording session* the artist had played what was heard on the record, even though there may have been 100 or more takes skillfully assembled to produce the final result.

Such assurance has largely vanished in our digital era. Still captured by microphones, sound waves are now converted to a string of binary numbers, which can then be manipulated in ways undreamed of in the analog era. Parameters such as pitch, tempo, timbre, volume, attack and tone, may be varied at will in the editing process and the result, although possibly musically rewarding, may bear very little resemblance to what the performer actually played in the studio. Ever more undetectably, splicing is still done in the digital era, but in many cases becomes unnecessary as the possibilities for sonic manipulation are so great. What one hears, then, cannot be warranted to accurately represent the performer’s true capabilities in such areas as intonation, accuracy of notes, and tone production.

Thus, it is that the engineer who masters a digital recording can be at least as important to the finished product as the performer. Compare these engineers to their early predecessors, who did little more than to turn on the recording machine and cue the performers. I am not arguing that it is the intention of every modern recording engineer to alter substantially the recording placed in his hands for editing. What I *am* contending is that we no longer may have

confidence in the products of the digital era as faithful renditions of *any reality*. All edited recordings, but in particular those produced digitally, may and *do* make some of the performers on them to appear to be much better musicians than they really are. Some concert goers have indeed been greatly disappointed when hearing their favorite artist from compact disks perform live in the concert hall.

Is it any wonder, then, that some collectors prefer the honesty of an earlier era? Likewise, is it any wonder that digital technology, with its inherent possibilities of distorting reality, should be so readily embraced in an age that cares so little for truth?

We have thus far considered only the effect of digital technology on recordings, but the change from analog to digital technology has also profoundly affected other media. Notable among these are photography and filmmaking. One may laugh nowadays at the efforts of a Joseph Stalin to remove, through clumsy airbrushing, those in group photographs who had fallen out of favor (and generally—with his assistance—also out of the ranks of the living.) If Stalin were alive today, he would have no such worries because digital technology can effect changes that do not admit to detection. Thus, in digital photos, one may use Photoshop to change his eye or hair color or even take 20 pounds off of his weight. One wonders how many of the digital photos floating around on the Internet for the purpose of attracting others have been altered in such ways. Why indeed bother with reality when it is possible to so seamlessly improve upon it?

Some might wonder why digital photographs or recordings are still admissible as evidence in courtroom proceedings—the one place in our society where truth is still in fashion. It would be a relatively simple matter to produce a recording now that would make a defendant appear to state something that he never in fact uttered, or a photograph or movie showing him in a place he never was. The reason that such recordings, photographs and movies are admissible is that they must be supported by laying a foundation, i.e., testimony from those involved in their production, or a witness to the event that the photo or recording depicts, that these accurately portray the reality that they are adduced to substantiate. This requirement remains unchanged from that of the analog era, but should gross and widespread fraud begin to seep into the courts via such documents, the legal hierarchy would likely re-examine the requirements for their admissibility.

Should we, as viewers of photographs or auditors of recordings, even *care* about the presence or absence of truth—congruence to reality—in these media? It can be argued that we go to films to *escape* reality, so if films do not depict reality—well, that's the whole point. But is it important to maintain safeguards on our technology that allow us to ascertain if sounds or visual images have been accurately preserved? Beyond that, shall we value an unedited performance of a great artist, even if there are flaws in it, because it was actually how he played the piece? The continuing interest of many collectors in the recordings of an earlier era reinforces my belief that each musical performance is part of our cultural heritage, and changing it would be tantamount to rewriting history. I am not arguing that there is no place for editing in recordings or other media, but that we need to preserve *some* performances as they actually happened in order to permit valid assessment of the artists who produced them. We

also need to be able to ascertain, at least in some circumstances *if, and in what respect*, recordings and photographs or moving pictures have been altered.

In the final analysis, digital technology certainly *does allow* faithful depictions of reality, but cannot guarantee, or even promote, them. Human beings, in their fallen condition, will often succumb to the temptation to mislead others by misrepresenting what is.

*Finally, brethren, whatever is true, whatever is honorable, whatever is right, whatever is pure, whatever is lovely, whatever is of good repute, if there is any excellence and if anything worthy of praise, dwell on these things. (Phil. 4:8)*

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