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Where Music: Will Be Coming From

By Kevin Kelly

Technology is changing music. But then again, it always has. The invention of the piano 300 years ago centered Western music on the keyboard. Electricity's arrival in the late 19th century enabled the duplication of performances and, later, the amplification of instruments. With digitization, the pace of upheaval has further accelerated. Digital file-sharing technologies -- Napster and its offspring -- are now undermining the established economics of music. And everything we know about digital technologies suggests that Napster is only the beginning.

There is no music made today that has not been shaped by the fact of recording and duplication. In fact, the ability to copy music has been deeply disruptive ever since the invention of the gramophone. When John D. Smoot, an engineer for the European company Odeon, carted primitive recording equipment to the Indonesian archipelago in 1904 to record the gamelan orchestras, local musicians were perplexed. Why copy a performance? The popular local tunes that circulated in their villages had a half-life of a few weeks. Why would anyone want to listen to a stale rendition of an obsolete piece when it was so easy to get fresh music?

As phonographs spread throughout the world, they had a surprising effect: folk tunes, which had always been malleable, changing with each performer and in each performance, were transformed by the advent of recording into fixed songs that could be endlessly and exactly repeated. Music became shorter, more melodic and more precise.

Early equipment could make recordings that contained no more than four and a half minutes, so musicians truncated old works to fit and created new music abbreviated to adapt to the phonograph. Because the first sound recordings were of unamplified music, recording emphasized the loud sounds of singers and de-emphasized quiet instrumentals. The musicologist Timothy Day notes that once pianists began recording they tried, for the first time, to "distinguish carefully between every quaver and semiquaver -- eighth note and sixteenth note -- throughout the piece." Musicians played the way technology listened. When the legendary recordist Frederick Gaisberg arrived in Calcutta in 1902, only two decades after the phonograph was invented, he found that Indian musicians were already learning to imitate recorded music and lamented that there was "no traditional music left to record."

As the technologies of reproduction bloomed in the last century, consumerism boomed. What consumers consumed -- whether in the form of a book, a CD or a can of Coke -- were exact copies.

The ability to make copies in mind-boggling quantities, ceaselessly and perfectly, was the chief ingredient of mass culture. Music rapidly adapted to the culture of the copy. Reproductions were made exact, while copies were multiplied vigorously. Music lived in its constant reproduction.

The grand upset that music is now experiencing -- the transformation that Napster signaled -- is the shift from analog copies to digital copies. The industrial age was driven by analog copies; analog copies are perfect and cheap. The information age is driven by digital copies; digital copies are perfect, fluid and free.

Free is hard to ignore. It propels duplication at a scale that would previously have been unbelievable. In only 10 months, 71million copies of the music-sharing software Morpheus were downloaded. Of course, it's not just music that is being copied freely. It is text, pictures, movies, entire Web sites. In this new online world, anything that can be copied will be copied, free.

But the moment something becomes free and ubiquitous, its position in the economic equation is suddenly inverted. When nighttime electrical lighting was new, it was the poor who burned common candles. When electricity became easily accessible and practically free, candles at dinner became a sign of luxury.

In this new supersaturated online universe of infinite free digital duplication, the axis of value has flipped. In the industrial age, copies often were more valuable than the original. (Who wanted the "original" prototype refrigerator that the one in your kitchen was based on?) Most people wanted a perfect working clone. The more common the clone, the more desirable, since it would then come with a brand name respected by others and a network of service and repair outlets.

But now, in a brave new world of abundant and free copies, the order has inverted. Copies are so ubiquitous, so cheap (free, in fact) that the only things truly valuable are those which cannot be copied.

What kinds of things can't be copied? Well, for instance: trust, immediacy, personalization. There is no way to download these qualities from existing copies or to install them from a friend's CD. So while you can score a copy free of charge, if you want something authenticated, or immediately, or personalized, you'll have to pay.

In the domain of the plentifully free, music will do the only thing it can do: charge for things that can't be copied easily. A friend of a friend may eventually pass on to you the concert recording of a band you like, but if you pay, the band itself will e-mail it to you seconds after the performance. Sure, you can find a copy of that hit dance track, but if you want the mix approved by the legendary D.J., then you'll want to pay for it. Anyone can grab a free copy of Beethoven's Ninth, but if you want it customized for the audio parameters of your room or car, you'll pay for it. You may have downloaded that Cuban-Chinese rock band from the Morpheus site without paying, but the only way to get all that cool meta-information about each track, which lets you search for chords and lyrics, is to establish a relationship with the band by paying.

The quality least plentiful in a world of rampant free copies is attention. Each year more than 30,000 new music titles are released (or rereleased) into a very cluttered head space of new movies, new TV shows, new books, new games, new Web sites. No matter what your musical appetite, there are not enough hours in a lifetime to listen to but a tiny fraction of the global supply. People will pay simply to have someone edit the music and recommend and present selected material to them in an easy and fun manner. That is why producers, labels and the related ecology of reviewers, catalogers and guides will continue to make a living: they counter our natural lack of attention for the 10 million albums we can expect to see in another 50 years. In the end, an awful lot of music will be sold in the territory of the free because it will be easier to buy music you really like than to find it for free.

Free is overrated as a destiny. It is only the second phase of the three stages of copydom. The first phase -- perfection -- is experienced in both analog and digital. Perfect duplication made the modern world and modern music.

The second stage is freeness. Costless duplication made Napster possible and a music revolution thinkable.

Yet it is in the third level of digital copy-ness that the real revolution lies. This third power is liquidity, and it will take music beyond Napster.

Digital copies are not only perfect and free, they are also fluid. Once music is digitized it becomes a liquid that can be morphed and migrated and flexed and linked. You can filter it, bend it, archive it, rearrange it, remix it, mess with it. And you can do this to music that you write, or music that you listen to, or music that you borrow.

At first glance it seems audiences were drawn to online music because of the power of the free, but in reality the rush to online music came from digitized sound's ever-expanding power of liquidity. Once music could swirl around one's life unencumbered, the millions of people who downloaded peer-to-peer file-sharing software suddenly and simultaneously imagined a thousand ways to conjure with music's liquidity. It wasn't only that it was free; it was all the things you could do with it.

Once music is digitized, new behaviors emerge. With liquid music you have the power to reorder the sequence of tunes on an album, or among albums. To surgically morph a sound until it is suitable for a new use. To precisely extract from someone else's music a sample of notes to use oneself. To X-ray the guts of music and outline its structure, and then alter it. To substitute new lyrics. To rearrange a piece so that its parts yield a different voice. To re-engineer a piece so that it sounds better on a car woofer. To meld and marry music together into hybrid breeds. To shorten a piece, or to draw it out so that it takes twice as long to play.

With digitization, music went from being a noun, to a verb, once again.

If this third power of the digital copy were to play out in full, the world would be full of people

messing around with sound and music much as they dabble in taking snapshots and shaping Web pages. The typical skepticism toward a scenario of ubiquitous creation and recreation of music is that it is always easier to read than to write, to listen than to play, to see than to make. That is true. Yet 10 years ago, anyone claiming that ordinary people would flock to expensive computers to take time from watching TV in order to create three billion or more Web pages -- well, that person would have been laughed out of the room as idealistic, utopian. People just aren't that creative or willing to take time to create, went the argument. Yet, against all odds, three billion Web pages exist. The growth of the Web is probably the largest creative spell that civilization has witnessed. Music could experience a similarly exuberant, irrational flowering of the amateur spirit.

Part of the reason people have been inspired to create text, graphics and action in the digital realm has been the arrival of new tools. Fans of music are already shuffling playlists, remixing tracks, sampling sounds, laying music with automatic drums and other instruments. They are already making music in the way that a camera makes an image -- by starting with what is there and adding a unique view to it. Just as the introduction of the Brownie camera changed photography from an expert's art to a ubiquitous public expression, with the right tools in hand it is not a very long hop from now to a time when everyone makes music in a small, amateur way.

Much of the friction about Napster is cast as a question about the future of music. But no matter what happens, the world of the future will have lots of music, listened to by lots of people. The question is not about the future of music but about the future of musicians. The role of the professional musician is in flux. But again, it has always been so.

The rules for making a living making music have been remade over and over, from the first drumbeat. Until the 20th century, musicians in Western societies were generally held in contempt, their status approximating that of a vagabond. Even the most successful musicians were mistrusted.

Recording technology redeemed the professional musician. The machinery of recording and duplication steadily elevated the role of musicians during this century until many of them now have reached celebrity status and riches. This was a status only a handful of musicians could have dreamed of a few hundred years ago. Mozart never had it so good.

The arrival of perfect, free and liquid copies of music means that new economic models of making music will be forced upon musicians. Will the model of the future be to give away copies in order to sell out a performance? Or to rapidly issue new work from the studio faster than it can spread online? Or to release music in such wonderful packaging that it is cheaper to buy it than to copy it? The probable answer: all of the above and more.

If there is any lesson that should be taken from the online world, it is that options multiply. I am willing to bet that within the next 10 years a young band will come along that will be primarily and generously supported by a commercial sponsor. The band will write and play whatever music it feels like, but it will grant first option to the sponsor to use the sponsor's materials in commercials.

The sponsor gets cool, hip music, and the band gets its stuff heard by millions, and anything the company doesn't use is the company's to pass out, free of charge.

Creating music is hard work. Creating music that is widely appreciated and constantly in demand is harder still. It may seem ludicrous to suggest to a working musician that in this new online world, music is becoming a commodity that is traded, cocreated and coproduced by a networked audience. How can an unskilled population create something that will be appreciated by many?

The partial answer is that most of us won't. It will still be a rare person who can write and play music that everyone swoons over. Those hit musicians will have their own economics. But most music, like most photography, needn't appeal to everyone. Most photographs taken in the world are taken by amateurs, and the images are of interest only to themselves or their families. Music does not have to be widely popular to be desired.

The future of music is unknown. But whatever it is, it will be swayed, as usual, by technology. Carver Mead, a computer-chip pioneer, advises us to "listen to the technology" to see where it is headed. If we listen to the technology of music, we might hear these possibilities:

- * Songs are cheap; what's expensive are the indexable, searchable, official lyrics.
- * On auction sites, music lovers buy and sell active playlists, which arrange hundreds of songs in creative sequences. The lists are templates that reorder songs on your own disc.
- * You subscribe to a private record label whose agents troll the bars, filtering out the garbage, and send you the best underground music based on your own preferences.
- * The most popular band in the world produces only very good "jingles," just as some of the best directors today produce only very good commercials.
- * The catalog of all musical titles makes more money than any of the record companies.
- * A generator box breeds background music tailored to your personal tastes; the music is supplied by third-party companies that buy the original songs from the artists.
- * Because you like to remix dance tunes, you buy the versions of songs that are remix-ready in all 24 tracks.
- * You'll pay your favorite band to stream you its concert as it is playing it, even though you could wait and copy it at no cost later.
- * The varieties of musical styles explode. They increase faster than we can name them, so a musical Dewey Decimal System is applied to each work to aid in categorizing it.
- * For a small fee, the producers of your favorite musician will tweak her performance to exquisitely match the acoustics of your living room.

- * So many amateur remixed versions of a hit tune are circulating on the Net that it's worth \$5 to you to buy an authenticated official version.
- * For bands that tour, giving away their music becomes a form of cheap advertising. The more free copies that are passed around, the more tickets they sell.
- * Musicians with the highest status are those who have a 24-hour Net channel devoted to streaming only their music.
- * Royalty-free stock music (like stock photography), available for any use, takes off with the invention of a great music search engine, which makes it possible to find music "similar to this music" in mood, tempo and sound.
- * The best-selling item for most musicians is the "whole package deal," which contains video clips, liner notes, segregated musical tracks, reviews, ads and artwork -- all stored on a well-designed artifact in limited editions.
- * Despite the fact that with some effort you can freely download the song you think you want in a format you think will work for your system, most people choose to go to a reliable retailer online and use the retailer's wonderful search tools and expert testimonials to purchase what they want because it is simply easier and a better experience all around.

In the end, the future of music is simple: more choices. As the possibilities of music expand, so do our own.

Photo (Elinor Carucci; Ricco/Maresca Gallery)