# introduction

**all that jazz**

Somewhere in my junior year of high school, I visited a friend who lived many miles into the deep woods which make up the bulk of rural New England. A short time after I arrived, I stumbled into a hallway which connected the front and rear halves of her residence. The hallway, perhaps 40 inches wide, was only just barely wide enough to walk through, because, for all of its length, it had been completely covered in shelving. On those shelves sat more record albums than I'd ever seen before (except in a record store), all carefully packed away into clear plastic sleeves which protected the delicate vinyl albums from the vicissitudes of time, dust, and clumsy teenagers. My friend – who ignored the collection, in the common way teenagers pointedly reject their parents' hobbies – dryly responded to my open-mouthed admiration by telling me that although there were well over 10,000 albums in her father's collection, they were *all* jazz recordings. In an instant, something that had seemed endlessly intriguing had been transformed into a curiosity. Sure, that's a lot of albums – but what if you didn't want to listen to *any* them? (In later years I have grown into an appreciation of jazz, but as a teenager in the late 1970s I cared only for punk and new wave music.)

Despite the disappointing choice of genre, I was struck by the sheer number of offerings. If you listened to every album, each an average of 40 minutes in length, you'd go through at least 400,000 minutes of music. (There are 525,600 minutes in a year.) Back in the 1970s, before the advent of Sony's Walkman, you had to be close to a music collection; you couldn't take it with you. So you'd be stuck in this house in the sticks, moving through the collection, eighteen hours a day – for an entire year! – before you'd heard all of it. For a jazz aficionado, this prospect would sound a lot like heaven. Instead, we focused on the 30-or-so albums my friend owned, and played a few of those on her father's deluxe sound system.

Times have changed. Today (the 18th of December, 2004) I sit in a café in Sydney's central business district, typing away on my Apple iBook. I've got some

headphones on, and I am listening to some music from my own collection – a collection that I've been building for nearly thirty years. That entire collection, nearly 5000 songs drawn from over 500 albums, sits on the iBook's hard drive, and I can listen to any of those songs anytime I want, anywhere I want. You might think that 5000 songs would be enough; but it isn't. I'm constantly adding to my musical collection – as are most of us, most of the time. The size of my collection of recordings is bounded not by the size of the iBook's hard drive, but by my pocketbook. I could go online (this café offers wireless Internet service) and instantly grab almost any song I could imagine through Apple's iTunes Music Store (iTMS) for a dollar apiece – and iTMS has about 700,000 songs for sale. I could access an Internet service such as Rhapsody or Napster, which offers me the ability to listen to any music in their collection (several hundred thousand songs) for a monthly subscription fee. Or, if I wanted to violate federal and international copyright laws, I could launch one of several programs I have installed on this computer and get this same music from others who have offered up their private collections for public use. One way or another, I now have nearly ubiquitous access to more music than I could ever hope to listen to. The moment of astonishment I experienced back in 1979 has become a permanent state of affairs in the early 21st century.

Everywhere around us we are presented with an embarrassment of riches. This wealth isn't confined to recorded music; today, many books are available online through the Gutenberg Project, a not-for-profit effort to translate the world's "Great Books" into easily accessible, free-to-all electronic libraries. Earlier this year the Project announced the availability of their 10,000th title, a translation of the Magna Carta. Just a few days before these words were written, web search giant Google announced an initiative to scan millions of books from the scholarly collections of Stanford, Harvard, and the New York Public Library. Google plans to make many of these texts freely available online – a project so big that it will take the better part of the next decade to complete. And that's above and beyond the roughly *eight billion* pages of web-based information accessible through Google's search engine. (By the time you read these words, that number will undoubtedly have grown by a billion or two, or ten.)

While the transformation of recorded music in the digital era has been the focus of so much endless argument – generating more heat than light – few seem to have noticed how the written word has undergone an even more amazing transformation. We think nothing of having information "at our fingertips," the answers to all our questions no more than a few keystrokes away. Why does such an exceptional turn of events feel so natural to us? How is it that we barely acknowledge something so profound that it has transformed the way we work, the way we live, and the way we think?

In some ways we have grown a bit jaded – not through any fault of our own, but because we've grown used to an endless stream of marvels. This *is* a marvelous age. But it does not end there. Marvels, whether ancient or modern, have the capacity to enchant us, and an enchantment transforms the enchanted. We are not precisely the same people we were before we began using Google, or iTunes, or any of an increasingly long list of wonders. Each of these leaves its mark upon us, almost a sort of internal tattoo. In these marks we can see the shape of the new world which is growing up all around us, a world shaped by the spells cast by these marvels as they work their magic. This book is an attempt to understand the cumulative effect of all this modern magic.

**sink or swim**

Today is my nephew Andy's 2nd birthday. I was present in the hospital in San Diego the night he was born, and dutifully shot video footage of mother & newborn, drove back home, uploaded it to my computer, crafted a short film, then sent it out to all of my relatives and friends, so they could rejoice, even from afar, in the inherent cuteness of tiny fingers curling and the scrunched-up moue on Andy's face. His grandparents, his great aunts and great uncles, all of them downloaded the video and watched Andy's first day of life.

For the past year I've been living far away from Andy – in Sydney, very nearly as far from Southern California as you can travel. I stay in regular communication

with his parents – my sister and brother-in-law – via email, leavened with an occasional phone call. Although I'm far away from them, I am reasonably well informed about the day-to-day details of their lives, and the lives of my two nephews – both of whom are yet too young to be sending their uncle electronic mail. So, until they grow a bit older, and learn the ways of the Web, I'm effectively cut off from them. That's a constant bother because both of them are at that age when every day makes a difference, and a year – which passes quickly for me – seems like a lifetime to them. For now I am like a welcome stranger, who visits at incredibly infrequent intervals throughout their lives. That is the tyranny of distance.

This year I wanted to give something to Andy which would remind him that his uncle is out there, and wishes him a very happy birthday. So I asked a friend to use my mobile phone to shoot a short video sequence of me singing the "Happy Birthday" song for Andy. From the phone I sent an email of the video to my sister and brother-in-law, who dutifully played it for him. (I later heard that two-year-old Andy reacted with confusion – how did his uncle get into this laptop? His brother Alex, now three, delighted in it.) That video birthday card may not have meant much to Andy, but it meant a lot to me.

A half a century ago emigration to Australia meant a complete cutoff from the ties of family, culture and nation. In the days before jet aircraft, the journey to Australia took several weeks, and even today the postal service takes a week to deliver a letter somewhere else in the world. But I can be at Andy's front door about 15 hours after I leave my own Sydney apartment, and I can send him a video greeting just a few moments after I've recorded it. We are all much closer together – and this is not news; we've arrived in Marshal McLuhan's global village right on schedule. I can live my life in Australia with a fair awareness of what my friends are up to in the United States, or Europe, or Africa. I can write them email or send them video clips or even videoconference with them, all from my iBook. It's not the same as being there, but it is far better than anything we've ever had before.

We are connected continuously, if tenuously, by the increasingly pervasive webs of digital communications technologies. And we've reordered our lives to

accommodate these innovations. Many businesspeople spend a few hours a day reading and responding to electronic correspondence. Most internet users spend at least a few hours a week on email, and some spend several hours a day at it. We have become prolifically epistolary; even if our emails tend to be brief, they are far more frequent than ever before, and this up-tempo in our human interactions is having a cumulative effect. For example, certain individuals, because of their profiles, have become deluged by email. Bill Gates reportedly receives four million emails a day, and uses an army of computers and humans to filter these down to the few hundred which might demand his attention. It somehow seems very appropriate that the world's richest man should be the target of so much electronic attention: Bill Gates is at the center of the worlds of technology, commerce and philanthropy; his thoughts and decisions can have a profound impact on millions of people. His import and his electronic accessibility (billg@microsoft.com) have made him a natural magnet for a flood of communication only a billionaire could cope with.

Bill Gates is just the extreme case of the world we're all entering. Already many of us are drowning in electronic correspondence. Sometime in the middle of 2004 I realized that I couldn't actually answer all of the email I was receiving – but I've yet to work out an effective system to establish the priority of my emails, so they just sit in my inbox, demanding answers they'll never get, and making me feel guilty for my failure to respond in kind. WIRED news reported that Lawrence Lessig, the Stanford University Law Professor and perhaps the most prescient thinker on the legal issues raised by digital media, suffered a similar email meltdown in February 2004, and calmly shelved about a thousand emails that he finally admitted he'd never get to. Lessig has now arrived in the place where Bill Gates has been living for years – and it's the world that will soon be home for all of the rest of us. We have been sending a constantly increasing flow of electronic correspondence every month since the Internet was invented; eventually we will all be drowned in that flood. Of course, some of this correspondence is unsolicited "spam," but much of it is vital, and that too is increasing, both in volume and in importance. Consider: there are now roughly a billion people on Earth with internet access; within a decade most of them will be confronted by a hyper-connectivity which, if nothing

changes, will render the Internet useless. The popularity of the Internet will destroy its utility.

The pressure of human communication, accelerated by digital technologies, seems intent on propelling us into a coming collapse. But pressure can also have a positive aspect – human beings under pressure regularly produce the unexpected. We haven't yet found a crisis so big that we couldn't solve it – the proof of that is that we're all still here. We will find a way through to an age of hyper-connectivity. That way through, into new forms of human connection, is another subject of this book.

## no fate

This book is not about the future. It is not my intention to describe some utopia, or its diabolical inverse, which we are hurtling toward. Instead, I will focus on events occurring at the present time, not in some far-distant future. The favorite words of futurists are, "in twenty years…," because that's far enough away from the present as to banish the taint of failure. I am not a futurist; although I have been given that appellation by others, my sole gift, insofar as I claim any ability, is that I can see the present with a somewhat greater than average clarity. Two of my intellectual forebears – whose works have been an enormous influence upon this one – were called futurists, but were, in fact, keen observers of the present.

Marshal McLuhan, the 20th century giant of media studies, left us phrases like "global village" and aphorisms such as, "the medium is the message," but died before the age of the Internet, which he would have understood better than most. When you boil down all of McLuhan's rich rhetoric – he was first and foremost a student of language – one irreducible assertion remains: *every experience of media leaves a permanent impression upon us*. Media change the way we perceive the world, transforming the way we think, feel, and behave. As I lay out my arguments in these pages, this basic discovery of McLuhan's – which he claimed he'd learned from Shakespeare and William Blake – will resurface, again and again, providing a

through-line which will help to make sense of events which, on their surface, seem entirely distinct, but are, in reality, all of a piece.

McLuhan's term "global village" is bandied about with abandon these days; connected a dozen ways through invisible networks of information, people often see themselves as part of a planetary community. Yet community is more than connectivity, the simple exchange of information; community implies organization, anywhere from rigidly hierarchical to anarchic, or, as in most cases, somewhere in-between. Organization serves as the basis for action-as-a-whole. It is action that defines a community; communication may keep it knit tightly together, but if communication fails to translate into action, the community is little more than an electronic mausoleum. "The medium is the message" means the actions of a community will differ in kind if that community is connected via telephone rather than radio, or email rather than television. They may all be communities, of a sort, but the scope and quality of their activities will differ widely. The recent digital technologies of communication have evolved toward intensely individual forms, and these media engender very different types of community action than the mass media which preceded them.

The noted "futurist" Alvin Toffler described the emergence of the connected individual a quarter of a century ago in *The Third Wave*. Toffler didn't predict the future; he took a magnifying glass to the present – the late 1970s – and examined the transformation of human experience produced by a radically "demassified" media. Demassification is a two-dollar word which means, at essence, the media each of us encounter are becoming more and more individualized, tailored for the needs and tastes of the individual. The industrial era produced newspapers, broadcast radio and television networks, the archetypal forms of mass media. All of these, Toffler announced, were rapidly giving way to a situation where hundreds of televisions, radio stations, and magazines would compete for our attention in a way we'd never seen before. It seemed like futurism when Toffler prophesied the age of demassification; now it seems almost trite. But Toffler wasn't looking into a crystal ball: he was looking at falling television ratings, dwindling newspaper subscriptions, and analyses of consumer behavior. People want more choice, Toffler announced, and they're getting it.

None of this demassification seems at all extraordinary today. When we turn on a television set, we expect to find a hundred channels to choose from; satellite radio gives us at least that many listening options in our automobiles; the World Wide Web gives us access to thousands of professional news sources, tens of thousands of "amateur" web logs ("blogs"), news feeds and commentary pages. Although it may seem as though the day of demassification has arrived, it has not really begun. The enormous transformations of the last twenty-five years are as nothing to the changes sweeping across the world of media at this moment. The repackaging of mass media into slightly more individual versions – which still manage to capture audiences in the tens of millions – are simply the last fevered strokes of dinosaurs desperately trying to outswim an approaching tsunami. The days of the mass media are already over. True demassification has begun.

I write this work forty years after McLuhan wrote *Understanding Media: The Extensions of Man*, and a quarter of a century after Toffler's *The Third Wave*. I make no claim to the intellectual genius of either of these two giants, but I do stand further downstream; upon their shoulders I can hope to see more and more clearly than either could in their own day. The river they charted has grown fast and turbulent; there appears to be a precipice directly ahead where the water drops away entirely, into a mountain of foam and spray. It is that trip over the approaching cataracts which is the central subject of this book.

In retrospect, great transformations seem the most natural things in the world. But in the moments leading up to them people are often confused, afraid, and suspicious. When the familiar ground has given way, some people become conservative, clinging to what they know, or believe they know to be true. Others embrace the chaos without a second thought, only to find themselves mired in dangerous quicksands. This book advocates a "middle path," between these two extremes. It is not enough to know that this enormous change in human communication is underway; it is not enough to know that the way we communicate will create corresponding changes in human being and human culture. This knowledge must be applied, individually and culturally, to create the sustainable human cultures of the 21st century.

We are being presented with a rare opportunity: in the transition from one culture to another, can we face the future, eyes open, and decide what kind of world we will have for ourselves? In this examination of the details of the present, the shape of the future will be revealed. That future has already arrived. It lies with us to decide what to do. There is no fate but what we make.

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