

the residual definition of the technology's identity as properly transcription continued to underwrite certain representational practices, to introduce later technological innovations, to help sound practitioners make sense of their representational tasks, and to shape the social experience of listening to electrically reproduced sound.¹²³

Films like *The Big Broadcast*, which echoed at the level of practice the discursive struggles of Hollywood's sound debates, bring into relief the clash between conflicting conceptual models for technology-in-use. *The Big Broadcast* embodies the conflict between sound practice conceptualized as the authentication and display of independently existing performance versus the signification of narrative business in an illusory nonrealistic space. This tension between authentication versus illusion is literalized in the film's climactic scene. Leslie signifies Hornsby's illusory presence in the broadcasting studio by playing a phonograph record over the air. But the badly warped record reveals the work of signification, the absence at the heart of the recorded, at the heart of signification. Leslie himself then steps to the microphone to provide an authentic, live, but woefully inadequate version of Hornsby's signature song "Please." He fails to fool anyone, but Anita, hearing Leslie's technologically mediated vocal struggles as if she were actually hearing him for the first time, rewards him with a kiss and her renewed devotion. In the film's culminating moment, the real Bing Hornsby arrives, rescuing the "big broadcast" by finishing the song. In a final gesture of transcribed synchronization, Bing Crosby sings directly to the film's audience, reasserting the apparatus' mimetic potential and rescuing the audience's epistemological faith in the sound film as an instrument of transcription.

from S. Wurtzler, Electric Sounds: Technological Change and the Rise of Corporate Mass Media, 2007.

Conclusions/Reverberations

The forces at play in the technological change described in the preceding five chapters reverberate across the history of twentieth-century media and beyond. Our contemporary moment is characterized by the erosion of taken-for-granted notions of media specificity. Technological change and not-unrelated economic developments challenge commonsense assumptions about media forms and practices. Historian William Uricchio has suggested that the process of digitization and convergence are redefining "our present as a moment of media in transition."¹ The situation is not entirely unlike that surrounding the innovation of electrical methods of augmenting sound. Electrical acoustics prompted a reimagining of the phonograph and more particularly the cinema, the establishment of new representational practices, the development of new economic relationships, and the interrogation of conventional notions of media identity. Radio's development in the form of point-to-mass broadcasting similarly required the construction of a medium's identity, the determination of its representational conventions, its social role, and the economic principles that made it "profitable." Uricchio further notes that in the midst of our contemporary media transition, "the working agenda for historians can quite productively make use of those earlier transition moments when related forms of instability threw into question media ontologies."² Any history is necessarily implicated in its present moment of construction, and I would suggest

that this is particularly true of histories of media undertaken in the midst of contemporary dramatic media change. Further, to paraphrase Hayden White, any history implies that it might have been told otherwise. So, by way of providing a conclusion that stubbornly resists imposing closure, I have isolated a number of themes developed elsewhere in the book and have begun to sketch out ways in which they appear to resonate powerfully with subsequent and ongoing media trends.

Utopian Visions

Anyone reading chapter 2 will recognize ways in which the often grandiose promises used to announce electrical acoustics have been frequently repeated to promote subsequent technological changes. Virtually any new form of mass media has been hailed as the instrumental fulfillment of a perpetually deferred participatory public sphere. Each iteration attests to the continuing rhetorical power of such a fiction. First television, then cable television, and more recently the Internet have promised to make broadly available culture, education, news, and thereby ultimately to facilitate individuals' inclusion in a broader social fabric and informed participation in public affairs. Innovators of media technology continue to invoke the promise of a more egalitarian social formation achieved through the latest technological wonder. As outlined throughout the book, these utopian promises can cohere to the technology after it is diffused, shaping public perceptions of media and popular understandings of specific media practices.

Our contemporary moment takes for granted the notion of "spin"—we assume *a priori* that all messages reaching us through their various mediations are shaped. Yet at the same time, we culturally long to experience the unmediated, the direct, and the transparent. Rhetorical presentations of blogging during the last presidential election cycle, for example, focused on the absence of mediation, as if the practice provided the direct voices of the people, even as blogging itself relies constitutively on a technology of mass mediation. Bloggers were credited with instigating and perpetuating (Dan) "Rathergate" and the censuring of former Senate majority leader Trent Lott. Individual citizens have become watchdogs of the political process—stepping in for a popularly discredited mass media that now seems transparently self-interested. Technology momentarily delivered on its

promise of empowerment as citizens became news gatherers and directly intervened in the political sphere. But these instances of revealing careless reporting by CBS or holding a politician accountable for racially insensitive remarks take on an importance in excess of their intervention into news practices or public affairs. They reaffirm yet again the possibility that technology might deliver on the inclusive promises that surround it. Like New York governor Al Smith circumventing a recalcitrant legislative branch and using radio broadcasting in 1925 to take his case for a tax cut directly to the people, these bloggers, and importantly popular knowledge about their actions, loudly reaffirm some of the faith vested in media technologies.

Compulsory Repurchasing

At a far earlier stage in this project, I arrived for a one-year teaching assignment as a sabbatical replacement at a small New England liberal arts college only to discover that, much to my chagrin, the school had just "deaccessioned" its 16mm film collection by donating it to the state's library system. When I discovered that I couldn't get the films back (employees at the state library system didn't know where the films had ended up), I dutifully followed my instructions and used the department's budget to acquire laser disk copies of films that the school had just discarded on 16mm. Often, the same titles sat on my office shelves in both VHS and Betamax formats. I often wonder now, what became of that school's collection of laser disks. Does the harried technician who responded to my research needs and came up with a 78 rpm phonograph (from his parents' garage) now tinker away well into the night trying to keep a single laser disk player running (no doubt using parts scavenged from a stack of broken machines)? Or have all the laser disks been "deaccessioned" as the 16mm films once were? Have the laser disks been sold on e-Bay to collectors? Donated to a state library system that didn't want them? Hauled to the dumpster and then to a landfill? Aren't the DVDs now on that office's shelves themselves on the verge of obsolescence?

The application of electrical methods to the phonograph arguably inaugurated the process of compulsory repurchasing characteristic of each substantial technological innovation in the mass media. U.S. media developments subsequent to the successful diffusion of electrical-acoustic media continued a process of innovation in which the new (or the better, the more

convenient, or that which produced more and “better” sound) introduced competing formats and a process of compulsory repurchasing. Successful innovations, even in the short term, demanded of consumers a repurchasing of ever newer and better devices to replace those that had become outmoded. Electrically recorded 78 rpm phonograph records would, of course, be displaced by 33 rpm long-playing disks and 45 rpm formats. Audiotape seemed to render the disk outmoded through, first, reel-to-reel tape, and then 8-track and audio cassettes, all of which were first displaced by CDs and now by technologies like the iPod. Domestic 16mm film lingered despite the innovation of, first, 8mm film and then super 8mm film with, alternately, phonograph recordings for sound accompaniment, then optical and even magnetic sound-on-film technologies. Radio added FM and then became TV, which became cable TV, satellite radio and TV, TV with stereo sound of various formats and now (or very soon) HDTV.

Not coincidentally, subsequent twentieth-century media innovations have often involved the dissimulation of the machine described in chapter 3. Cable and satellite distribution of television signals eliminated the need for consumers to physically adjust—that is, to physically interact with—their television sets. It is a sign of one’s age to recall the location and operation of “vertical hold” adjustments on TV sets or knobs that allowed one to fine-tune the tint and hue of color television reception. Today, consumer interaction with domestic entertainment technology is largely accomplished at a distance—via a remote, the keypad of which provides an ease and automation of the consumer’s interface with the device. Where once one had to physically lift the tone arm of a phonograph and move it through space to reach a desired song (literally looking at the grooves in the recording to identify where songs began and ended), today the artifact of recorded sound increasingly has no observable, physical quality. Listening to a desired song merely requires the push of a button, a keystroke, a mouse-click.

More convenient? Most assuredly. Better? Well, perhaps. But the comparative benefits of digital versus analog are not the issue here. Instead, I’m suggesting that the shift to electrical methods of augmenting sound represents a crucial stage in a larger process through which domestic media technology became increasingly opaque. Technological processes have progressively receded from consumer sight and control. This dissimulation of the labor of technology takes its place alongside the progressive, attempted dissimulation of all labor within corporate capitalism. The con-

tainment of the phonograph within a cabinet, the physical design of radio receivers, the innovation of single-control radio tuning, and the introduction of automatic record changers (all during the 1910s and the 1920s) are steps in a larger process through which technological principles and processes become increasingly opaque. Progress, convenience, efficiency—at least as they have come to be commonly defined—all hinge on this dissimulation of labor, this elision of technology, the sealing of technology’s black box. The illusion, or rather the structured containment of consumer control, lingers in the form of the remote control, which in many ways fulfills the onanistic promises of the Aeolian-Vocalion’s transformation of phonograph enthusiasts into performers of sound.

Transcription Versus Signification

The innovation of electrical methods of augmenting sound introduced previously unheard-of possibilities for the manipulation of acoustic phenomena. Although innovators announced electrical acoustics with grand claims about enhanced fidelity in sound reproduction, the material practices of representing with sound moved inexorably away from the transcription of acoustic events. Instead, as I have started to detail in chapter 5, sound-representation practices moved more fully to a signification paradigm. Subsequent developments in acoustic technology have only exacerbated and enhanced this process. Research and development within Hollywood and by sound technology manufacturers provided filmmakers with the ever-increasing ability to creatively manipulate sounds. Later developments like, first, magnetic tape and, later, multitrack recording moved sound practice further from the documentation of preexisting events. More recent technological innovations and shifts in sound practice, chronicled by Paul Théberge and Timothy D. Taylor, have further extended the steps toward the creative manipulation of sound undertaken within Hollywood following its conversion to sound.³ The visual techniques of the modernist avant-garde film are now simply a mouse-click away on most domestic computers, and with the introduction of consumer audio software (most recently, GarageBand), technology that might enable Harry Alan Potamkin’s vision of the “sonorous film” is widely diffused, if not democratized. But this is not to suggest that “transcription” as a method of understanding the work of sound recording has been fully eclipsed.

Each audio innovation subsequent to the introduction of electrical acoustics has been announced with broad claims regarding enhanced fidelity to original performances. The belief, indeed the faith, that technological innovation can further close the gap between the real and its representation continues to have persuasive popular appeal, even in the face of continued indications to the contrary.

Concentration of Ownership

The concentration of media ownership in the hands of a few large corporations that grew out of the innovation of electrical methods for mediating sounds received some critical attention during the late 1920s and early 1930s. Chicago's labor-owned radio station WCFL warned its listeners and the readers of its magazine about the threat posed by "the radio trust" to free speech, democratic ideals, and the public's ownership of the ether. This criticism of radio broadcasting during the early 1930s often uncannily echoes contemporary critiques of corporate control of the mass media. In a 1934 publication, James Rorty noted:

In brief, the broadcasting power of the nation is in the hands of a few powerful corporations, closely connected with power trusts and public utilities corporations. That means, not merely that time-on-the-air cannot be had, except from relatively insignificant independent stations, for criticisms and attacks upon the policies and performances of these corporations, but that the *status quo* of business and finance in general is protected from such attacks. This is insured by the community of interests, established through interlocking directorates, financial control, etc., to which appeal can always be made when a dissenting minority attempts to attack financially important individuals or corporations.⁴

Today, one can have the uncanny experience of holding Rorty's book in one hand and, for example, Robert McChesney and John Nichols' *Our Media Not Theirs* in the other.⁵ The arguments are strikingly similar, the stakes seem equally as high. McChesney and Nichols' critiques of corporate media dominance now seem a bit stronger than Rorty's because of the weight of evidence culled from decades of corporate control of U.S. media dating back precisely to Rorty's moment. Media ownership in the 1930s was not

as fully or as systematically concentrated as it is today, but to a large extent the rise of vertically and horizontally integrated media conglomerates that is justifiably of such concern to today's media activists originated in the period surrounding Hollywood's conversion to sound and other applications of electrical sound technology.

Marketplace Democracy and Economic Alternatives

Although the period surrounding the introduction of electrical acoustics led to an intensified concentration of ownership across mass media forms, the U.S. culture industry did not become monolithic. Within each medium small manufacturers, theater owners, and/or broadcasters continued an often precarious economic existence. For the U.S. system and its ideology of consumer choice to work, there had to remain some illusion of a market place that was indeed free. In his 1934 critique of U.S. broadcasting, Rorty quoted economist Walton Hamilton to characterize the ideological implications of corporate broadcasting: "Business succeeds rather better than the State in imposing restraints upon individuals, because its imperatives are disguised as choices."⁶ While concentration of media ownership did not eliminate consumer "choice," the dominance of mass media by a handful of for-profit institutions necessarily imposed limitations on the extent and type of such choices available.

One of the abiding fictions of American life in the twentieth century was and is the notion that the market is an articulation, an enactment, of Democracy. U.S. media industries, like all firms entrenched in consumer culture, have long promoted the notion of consumer sovereignty. In his analysis of interwar advertising, Roland Marchand describes the "Parable of the Democracy of Goods," through which the U.S. advertising industry depicted a version of social reality where equality was achieved through the consumption of goods.⁷ A similar principle underwrote the rhetoric surrounding emerging sound technologies and the notion of "service" promulgated by media conglomerates. The cinema, the phonograph, but most particularly the radio (because of the provision of "free" programming), promised consumers equal access to "quality" entertainment irrespective of social status. Such consumption also promised a participation of sorts. Consumers voted with their dollars or by tuning their radio dials, and the entertainment industry promised to listen and respond to consumer de-

mands. Participation in the form of purchasing, or indeed of listening, collapsed citizenship with consumption.

In the late 1920s and early 1930s, labor-owned WCFL, socialist-operated WEVD (New York), and a few other media organizations vocalized and embodied in practice a critique of so-called marketplace democracy and the corporate domination of media. Our contemporary moment arguably includes a broader range of media directly opposed to that domination. Perpetually embattled (for there is no other way within the current political economy of mass media), a radio network like Pacifica joins dispersed public-access television activists (sometimes coordinated through Deep Dish TV or the Alliance for Community Media), various practitioners of LPFM radio, the international proliferation of “indymedia” centers, and a host of sometimes short-lived, always raucous, grass-roots alternatives to the corporate media status quo.

Intermedia Commodities, “Synergy,” and the Commodity Logic of the Multimedia Conglomerate

In a broad overview of the music industry in the twentieth century, Reebee Garofalo characterizes the goals of 1980s–1990s transnational music companies as cultivating and exploiting “multiple revenue streams,” including not only record sales but also revenue from licensing music to advertisers, movie tie-ins, and cross-media marketing.⁸ He further notes the key role played by technology in this shift in business practices (specifically satellite and cable television, CDs, and the promise of, eventually, streaming audio on the Internet). As I’ve described in chapter 1, such a process also characterized the late 1920s and early 1930s and the business practices of U.S. entertainment companies in the aftermath of the diffusion of electrical acoustics. The integrated, transmedia marketing of Amos ‘n’ Andy that accompanied the national release of *Check and Double Check* in 1930, or Warner Bros.’ “placement” of popular songs that they controlled in feature films, cartoons, phonograph recordings, and sheet music might seem almost historically quaint in light of the standard set by the contemporary “high concept” motion picture. The vertically and horizontally integrated entertainment firms of the early 1930s could not also include theme parks, television, home video, and so on in their “revenue streams.” But like today’s “high concept” media product, the synergistic marketing of entertain-

ment commodities in the early era of electrical sound media was the logical and inevitable outcome of a particular economy of mass media dominated by multimedia conglomerates.

Politics and Entertainment

While the process through which American politics adapted to mass media clearly begins before the period covered in this book, the innovation and deployment of radio broadcasting (and to a lesser extent the sound film) played powerful roles in moving political presentations ever closer to the entertainment commodity. American politics adapted to emerging media, seeking to close the gap between the political process and the entertainment spectacle. In 1932, when Herbert Hoover took to the airwaves and unintentionally disrupted Ed Wynn’s Texaco “Fire Chief” Hour, he erred in a way that has grown unthinkable today. Political conventions—unlike the Democratic Party’s two-week marathon of 1924—are carefully managed so as to be mass-mediated. In 1928 political parties began to adapt their conventions to the emerging representational practices of radio (*and* in light of the 1924 national broadcasts). Today, keynote speakers address the floor and the nation (or that portion of it watching) within the temporal confines of “prime time” in carefully orchestrated events that have been designed to be broadcast. These calculated political performances become most notable, most newsworthy, when the careful preparations fail (e.g., when the balloons fail to drop on cue, as happened at the Democratic National Convention in 2004).

The collapsing (or at least the blurring) of the boundary between politics and entertainment is perhaps no more evident than in presidential election debates or public policy presentations that opt for a “town-hall” format (e.g., George W. Bush discussing his plan to privatize Social Security). In a highly theatrical enactment of “direct” interaction with “the people,” citizens rise in turn (often nervously and hence “authentically”), read their preapproved question from a note card, and hurriedly return to their seats to await an answer that seems every bit as prepared as the hairstyle and necktie selection of politicians. The *mise-en-scène* of the town square, the grange hall, or the shop floor is here invoked under the glare of television lights and an inflated sense of seriousness recalling, but most clearly not reproducing, a fictional historic moment when men vying for public office

addressed the people directly from the rear of train cars or the crush of a crowd. While, first, Western Electric's public address system and, later, radio broadcasting allowed politicians to address ever-widening circles of citizens, the electrical-acoustic expansion of the audience threatened a loss—the loss of intimacy, of direct connection. U.S. political culture has developed a series of compensatory strategies to address such a loss, including today's "town-hall" format. The "intimacy" of FDR's fireside chats was cut from the same bolt of rhetorical cloth as Jimmy Carter's cardigan sweater, "Dutch" Reagan's blue jeans, or John Kerry's hunting jacket.

Much of our shared contemporary understanding of the twentieth century revolves around a series of mediated, theatrical moments, endlessly recycled in mass-mediated accounts. Consider popular memory of the Cold War. In a broadcast speech from Missouri, Winston Churchill named for us the "Iron Curtain." Nixon went toe to toe with Khrushchev in a faux American kitchen. And while Khrushchev banged his shoe on the desk at the UN, Adlai Stevenson would later sit at a remarkably similar desk and instruct the Soviet representative not to wait for the translation but to answer the question *now*. When Ronald Reagan theatrically proclaimed, "Mr. Gorbachev, tear down this wall!" the televisual moment bore all of the same theatrical drama as when Kennedy declared, "Ich bin ein Berliner." But consider other moments: Ike warned us of the threat posed by a vast military industrial complex; CNN broadcast to the world the image (from China in 1989, after the Tiananmen Square massacre) of an anonymous man standing in front of a tank (weren't there virtually identical images from Prague in 1968?); U.S. presidential politics changed forever with the Nixon-Kennedy debate; and John Dean's hyperbolic testimony about a "cancer on the Presidency," although widely scorned at the moment of its utterance, has come to signify "Watergate." What these and many other readily recalled moments of U.S. and international political history have in common are both their endless recycling in retrospective accounts of particular moments (their incorporation into a mediated mythos of the twentieth century) and the structural ease with which they were so incorporated. Each of these mediated events consciously played to the medium of its moment. With increasing intensity since the innovation of ever-new tools of mass mediation, politics have taken on, indeed embraced, the conventions of the melodramatic spectacle. After all, isn't FDR's statement about "fear itself" the first legitimate sound-byte?

Although I have begun to outline above a series of resonances that reverberate and echo between the historical innovation of electrical acoustics and subsequent media developments, this is not to suggest that the process of technological change is ultimately predetermined by events originating in the 1920s and early 1930s. Instead, as this book has argued, the process of technological innovation is always and inevitably the site of contestation and struggle. That contemporary events resound with the past attests to continuities between the past and the present that shaped technological innovation then as well as now. Among those continuities are the power of corporate capitalism to influence and in many ways control technological change, the longing for and recurring faith in media technology's ability to unite disparate individuals despite their differences, and the assumption that such a (inter)national unification, such a shared imaginary, is indeed desirable, the continuing pervasive fiction of a participatory public sphere, and the ideological erasure that equates capitalism with democracy.

Just as dominant ideology always bears within itself a series of gaps and fissures, so too does corporate control of mass media and technological innovation ultimately leave open a series of spaces that alternatives might inhabit and from which they indeed speak. Hegemony seeks to disguise internal contradictions and mutually contradictory beliefs. Its success might be measured in the absence or marginalization of alternative visions. Corporate media's hegemony can be measured (historically and in our present moment) in the degree to which such alternatives remain marginalized and essentially contained. In an era when large corporate scandals are represented (that is, *mediated*) as essentially aberrations attributed to individual avarice (Ken Lay at Enron)⁹ or as proof that existing structures of oversight will, in fact, eventually catch up with "poor accounting practices" (we need only strengthen such oversight and reform such practices), there appears to be little conceptual ground from which a rigorous critique of corporate domination might gain some purchase. Such ground must be created. While technology—particularly media technology—most assuredly will not, and indeed cannot, in and of itself create such ground or fulfill the promise of a more egalitarian social formation, it may indeed play a role.

But such a view is fully complicit with the recurring notion that technological change offers us access to those grand, utopian promises.