NORTHWESTERN UNIVERSITY

TV Repair: New Media “Solutions” to Old Media Problems

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

for the degree

DOCTOR OF PHILOSOPHY

Field of Screen Cultures

By

Bret Maxwell Dawson

EVANSTON, ILLINOIS

DECEMBER 2008

ABSTRACT
TV Repair: New Media "Solutions" to Old Media Problems
Bret Maxwell Dawson

Television's history has at numerous points been punctuated by pronouncements that technological innovations will improve its programming, empower its audiences, and heal the injuries it has inflicted on American society. This enduring faith in the inevitability and imminence of television's technological salvation is the subject of this dissertation. *TV Repair* offers a series of case studies of the promotion and reception of four new media technologies, each of which was at the moment of its introduction touted by members of various constituencies as a technological fix for television's problems, as well as for the problems television's critics have accused it of causing. At each of these moments of innovation, I explore the questions, fantasies, fears, and power struggles provoked by television's convergence with new media, as well as the social, cultural, and economic contexts within which these mergers take place. Taken together, these case studies broaden our understanding of television's technological history, and contribute to an ongoing dialogue about television's place within studies of "new media." In many contexts, television acts as a convenient shorthand for "old media," connoting the passivity, centralization, and rigidity that new media promise to deliver us from. *TV Repair* invites a reconsideration of this easy equivalency, calling attention to the ways that television itself "becomes new" through convergence. In this dissertation, I argue

that “becoming new” is a matter of social redefinition, carried out in advertisements, sales brochures, instruction manuals, media reports, and everyday talk. These acts of social redefinition exploit television’s latent instability to reopen debates about what television is and might become. At these moments, television once again seems to possess a glimmer of the potential typically identified with new media. In addition to offering a cultural history of the idea that new media will repair television, then, this dissertation is also about how television reclaims a sense of “novelty” during these instances. It is, in other words, a history of television as a new medium.

Acknowledgements

First and foremost, thanks is due to the members of my dissertation committee, Lynn Spigel, Jennifer Light, and Jeffrey Sconce. Lynn, Jen, and Jeff all demonstrated a remarkable degree of understanding and patience in the face of the many calamities that befell me during my time at Northwestern. Between having my apartment burglarized (and my computer stolen) as I slept on the night before my qualifying exams to learning that the home I had just purchased in Bloomington was contaminated with asbestos on the verge of submitting my dissertation's final draft, on more than a few occasions during the last four years I came to the conclusion I was somehow jinxed. In retrospect, I realize that the opposite was true, and I now recognize how fortunate I am to have had the opportunity to work with individuals who, in addition to being brilliant scholars and generous mentors, are also wonderful, caring people. In particular, I must express my deepest gratitude to Lynn Spigel for her invaluable editorial insight, her professional guidance, and, most of all, her friendship.

Many friends and colleagues have also made immeasurable contributions to this dissertation and, more broadly, to my development as a scholar. Amber Watts has been both a friend and a mentor since my first year at Northwestern; not a Tribal Council goes by that I don't miss living in the same city as her and her partner, Ron. On many occasions, my classmate Margo Miller provided me with feedback on the papers and articles that would eventually become this dissertation's chapters. Perhaps even more importantly, Margo was always

available for spur of the moment trips to Hot Doug's, where we passed many hours that we should have spent writing stuffing our faces and obsessing about the minutiae of academic life. James Bennett and Daniel Chamberlain have become close friends over the course of our many collaborations, and Chris Meir has consistently brightened my spirits with his stories. Charlotte Brunsdon, Helen Wheatley, Rachel Mosley, David Morley, John Caldwell, Vicky Johnson, Martin Roberts, Jon Gray, and my new colleagues Chris Anderson, Barbara Klinger, and Josh Malitsky have all generously offered me their guidance and encouragement, and for this I thank them. But the individual to whom both I and this dissertation owe the greatest debt is my wife and best friend, Caitlin O'Connor. It is Caitlin's love that has sustained me and given me strength and happiness, not only throughout the miserable period during which it seemed that all I did was work on this dissertation, but also for the last fourteen years. And that is why, as with everything, this dissertation is for Caitlin.

TABLE OF CONTENTS

Introduction:
Television Repair: New Media “Solutions” to Old Media Problems 8

Chapter One
Close Quarters, Remote Control 44

Chapter Two
Home Video: Repairing “The TV Problem” 113

Chapter Three
Rationalizing Television 188

Chapter Four
Television’s Placeless Mobile Future 261

Conclusion 328

Introduction
Television Repair:
New Media "Solutions" to Old Media Problems

During a panel on "The Impact of Web 2.0" at the 2007 Davos World Economic Forum, then Microsoft CEO Bill Gates confidently predicted that within five years the Internet would revolutionize television. "I'm stunned how people aren't seeing that with TV, in five years from now, people will laugh at what we've had," Gates told the audience of diplomats, business leaders, journalists, bloggers, and assorted celebrities and rock stars.[1] Gates' remarks at Davos did elicit laughter, but they were mainly at his, and not television's, expense. Also on stage with Gates that day was Chad Hurley, CEO of the video sharing website YouTube.com. Only months before Google had purchased YouTube.com for $1.65 billion, outbidding Microsoft and a number of other companies. As Internet insta-pundits were quick to point out, Hurley's presence on the rostrum suggested a very different timetable for television's transformation, one in which

[1] Ben Hirschler, "Internet to revolutionize TV in 5 years: Gates" URL (Accessed March 13, 2007): http://www.washingtonpost.com/wp-dyn/content/article/2007/01/27/ AR2007012700589.html/.

Gates was well behind the curve.[2] In a flurry of blog posts and message board comments, the digerati heaped snark on Gates for being oblivious to the fact that the revolution he forecast had already transpired, leaving Microsoft (not to mention its founder and chief executive) in the dust. “Bill Gates looked deep into his crystal ball and prognosticated that in 5 years, TV will be a lame duck and watching video on the internet will be all the rage,” observed the website DownloadSquad.com. “A little late to the dance, Billy?”[3] Adding insult to injury, footage from “The Impact of Web 2.0” panel was uploaded to YouTube.com, preserving Gates ignominious remarks for posterity on the Microsoft competitor’s website.[4]

In many respects, those who skewered Gates in the aftermath of Davos had a point: predictions that the Internet will revolutionize television were old news by 2007, having a lineage that stretched back at least as far as the 1990s writings of such prominent cyberenthusiasts as George Gilder, Nicholas Negroponte, and … Bill Gates.[5] Gates himself had suggested in his 1995 book *The Road Ahead* that television’s destiny was to be reinvented in the image of

---

[2] Jackson West, “Gates: TV Is Doomed,” URL (Accessed June 12, 2007): http://newteevee.com/2007/01/29/gates-tv-is-doomed/; see also Philip Swann, “Bill Gates: TV Is Terrible” URL (Accessed June 12, 2007): http://www.tvpredictions.com/ gates012807.htm/.

[3] “Gates Says TV Is Doomed, Internet Where It’s At” URL (Accessed May 18, 2007): http://www.downloadsquad.com/2007/01/27/gates-says-tv-is-doomed-internet-where-its-at/.

[4] URL (Accessed July 25, 2008): http://www.youtube.com/watch?v=2xXlZK5rCls/.

[5] George Gilder, *Life After Television: The Coming Transformation of Media and American Life* (New York: W.W. Norton and Co., 1994); Nicholas Negroponte, *Being Digital* (New York: Vintage, 1995).

the networked personal computer.[6] Like many others in this period, Gates insisted that computers would make television more democratic, interactive, and edifying, redeeming a medium that for more than fifty years had failed to live up to its potentials. But even by that point, forecasts of television's impending technological rebirth were anything but new. Television's history has at numerous points been punctuated by pronouncements like Gates' that technological innovations would improve its programming, empower its audiences, and heal the injuries it has inflicted on American society. Considered in this light, Gates' statements at Davos are perhaps not quite as "laughable" as the digerati made them out to be at the time. Quite the contrary, they reiterated a longstanding faith in the inevitability and imminence of television's technological salvation, apparently a faith that many of those who lambasted Gates shared.

This enduring faith in the power of new media technologies to rehabilitate television is the subject of this dissertation. *TV Repair* offers a series of case studies of the promotion and reception of four new media technologies, each of which was at the moment of its introduction touted by members of various constituencies as a technological fix for television's problems, as well as for the problems television's critics have accused it of causing. These technologies are remote control devices, home video systems, digital video recorders (DVRs), and mobile media devices (including cell phones and iPods). At each of these moments of innovation, I explore the questions, fantasies, fears, and power

---

[6] Bill Gates, *The Road Ahead* (New York: Penguin, 1995).

struggles provoked by television's convergence with these new media, as well as the social, cultural, and economic contexts within which these mergers took place. Though presented in chronological order, the case studies that follow do not profess to offer a comprehensive overview of television's history as a convergence medium. Rather, they leave many gaps in this history, including most notably the nearly three decade-long gap between the demise of the first generation of home video systems in the early 1970s and the introduction of DVRs in the late 1990s. The dispersal of my case studies reflects a central priority of this study: to foreground the ruptures, recurrences, and reversals within a history that is far too often portrayed to be linear and continuous. In this respect, this dissertation is both a work of historical revisionism, and an attempt to correct for the overwhelmingly presentist orientation of the majority of accounts of media convergence.[7] Though I seek and identify resonances across moments that span television's history, my intention is not to impose a single, unifying framework over television's past. Rather, *TV Repair* questions our faith in television's ideology of technological progress, as well as the forms of historiography that sustain it.

---

[7] Noteworthy exceptions include William Boddy, *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States* (London: Oxford University Press, 2004); William Uricchio, "Old Media as New Media: Television" in Dan Harries (ed.) *The New Media Book* (London: BFI, 2004), 219-30; William Uricchio, "Television's Next Generation: Technology/Interface Culture/Flow" in Lynn Spigel and Jan Olsson (eds.) *Television After TV: Essays on a Medium in Transition* (Durham, NC: Duke, 2004), 163-82; and Lisa Parks, *Culture in Orbit: Satellites and the Televisual* (Durham, NC: Duke University Press, 2005).

A second aim of this dissertation is to make a contribution to the ongoing dialogue about television's place within studies of new media.[8] In many contexts, television acts as a convenient shorthand for all that is ostensibly wrong with "old media," exemplifying the passivity, centralization, and rigidity that new media (or, more accurately, the promoters and proponents of new media) promise to deliver us from. Certainly this was the case with regards to the promotional discourses that announced the introduction each of the four technologies discussed below. But it is equally true of discussions of new media within a number of scholarly precincts. *TV Repair* invites a reconsideration of this easy equivalency between television and old media, calling attention to the ways that television itself "becomes new" as it converges with a variety of new media technologies. As I shall explain below, "becoming new" has little to do with computers, the Internet, or any of the other cutting-edge digital technologies that, depending on whom you ask, either will reinvent or have already reinvented television in their enlightened images. It is instead a matter of social, rather than technological, redefinition, carried out not in the lab, but in advertisements, sales brochures, instruction manuals, media reports, and everyday talk. William Uricchio has suggested that behind television's familiarity "is one of the more extreme

---

[8] See, for instance, John T. Caldwell, "Introduction: Theorizing the Digital Landrush" in John T. Caldwell (ed.) *Electronic Media and Technoculture* (New Brunswick, NJ: Rutgers University Press, 2000), 1-31; Jeffrey Sconce, "Tulip Theory" in Anna Everett and John T. Caldwell (eds.) *New Media: Theories and Practices of Digitextuality* (New York: Routledge, 2003),179-93.

examples of the instability endemic to media forms."[9] Television's convergence with new media technologies exposes and exploits this latent instability, reopening debates about what television is and what it might become. At these moments, television once again seems to possess a glimmer of the potential typically identified with new and untested media. In addition to offering a cultural history of the idea that new media will repair television, then, this dissertation is also about how television reclaims a sense of "novelty" during these instances. It is, in other words, a history of television as a new medium.

"Television's One Sturdy Tradition"

Unlike other media, many of which settle into respectability with age, television has never ceased being a source of controversy over its perceived impact on our culture, our families, and our psyches. Since the earliest days of commercial broadcasting, television has been the subject of brutal invectives about its shortcomings and plaintive missives about its unrealized potentials. Indeed, as John J. O'Connor, former television critic for the *New York Times* observed in 1971, "[t]elevision's one sturdy tradition in this country has been to provide an irresistible object for disparagement."[10] This tradition of critique is carried on today in various forms by "culturejamming" media outlets like *AdBusters*, anti-TV groups like White Dot (The International Campaign Against Television), as well

---

[9] Uricchio, "Old Media as New Media," p. 221.
[10] John J. O'Connor, "Admit It - You're a Watcher" *New York Times* (December 26, 1971), D19.

as by viewers themselves in the message board sections of websites like TelevisionWithoutPity.com. Now, as then, the most frequent target of this disparagement is television's programming, which is alternatively critiqued on moral, political, social, and aesthetic grounds. But television's critics have been equally harsh in their assessments of the medium's properties as a technology. Perhaps more than any other medium, television provokes the suspicion that its form, content, and social function are partly or even wholly determined by the nature of its hardware. Though the origins of this sentiment predate commercial television broadcasting, since the 1960s this idea has been primarily associated with the Canadian media theorist Marshal McLuhan. In his 1964 book *Understanding Media*, McLuhan insisted that a direct correlation existed between the technical properties of the television receiver and the medium's effects on its audiences. According to McLuhan, it was the dynamism of the "mosaic mesh" rendered by the receiver's "scanning-finger," and not television programming itself, that moved television's audiences, and therefore that should be the starting point for any discussion of television and its social consequences.[11] Since then, McLuhan's famous maxim "the medium is the message" has most provocatively (and controversially) been applied to television, both by its champions and its critics.

---

[11] Marshal McLuhan, *Understanding Media* (Cambridge, MA: MIT Press), 313. Of course, McLuhan made similar claims about radio, cinema, photography, and in fact all of the media he examined in this book. However, it is his writings on television that have had the most lasting impact on our cultures' conversations about media and technology.

McLuhan's theory of technological determination has proven irresistible to reformers of a variety of political persuasions, as well as to the manufacturers and marketers of a wide range of new media technologies. Those seeking to transform television have at numerous points aimed their interventions at its circuitry. For instance, some of the first artists to experiment with portable video technologies in the 1960s literally tortured the functioning parts of television receivers in an effort to commandeer a banal, commercial medium to provoke radical responses from their audiences.[12] Along similar lines, 1990s cyberenthusiasts suggested that by upgrading analog television's vacuum tubes to digital circuitry it would be possible to eliminate television's bandwidth bottleneck and the top-down, centralized, and standardized model of communication television sustained.[13] Still, despite the persistence and pervasiveness of this reasoning, I argue that TV repair is ultimately a form of discursive, and not technological, tinkering, in which far more than just the receiver itself gets "worked on." By discursive tinkering, I refer to processes whereby individuals, institutions, or organizations attempt to capitalize on the uncertainty engendered by television's convergence with new media in order to redefine its cultural meanings. Conceived of in this manner, my concept of TV repair foregrounds the *epistemological* implications of convergence over its

---

[12] David Joselit, *Feedback: Television Against Democracy* (Cambridge, MA: MIT Press, 2007).
[13] Gilder, *Life After Television*, p. 23.

industrial, aesthetic, and technological ones.[14] As Lisa Parks notes, "[c]onvergence involves not only the collision of industries and technical recombinations; it also involves shifts in the discursive construction of technologies that preexist the convergence and those that emerge as a result of it."[15] These discursive shifts are the substance of my study; the technical documents, corporate marketing plans, internal memos, media reports, policy discussions, cultural criticism, art works, advertisements, popular television programs, films, and websites they unfold across constitute my body of evidence.

My understanding of TV repair as a form of discursive tinkering owes much to Jay David Bolter's and Richard Grusin's concept of *remediation*.[16] Bolter

---

[14] In his book *Convergence Culture*, Henry Jenkins defines convergence as "the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want" (2). Jenkins astutely goes on to clarify that "[c]onvergence does not occur through media appliances, however sophisticated they become. Convergence occurs within the brains of individual consumers and through their social interactions with others" (3). Despite his attentiveness to these social and cognitive/affective processes, Jenkins' concern is more with audiences' relationships with media than it is with their understandings of the ways in which media relate to one another. As a result, his book gives only passing attention to the implications convergence has for peoples' understandings of what media are and do. These forms of socially-situated knowledge constitute the focus of my study. For example, it is not simply the case that TV-digital media convergence expands television's horizons to encompass forms of participation or interactivity previously thought to be foreign to it; on the contrary, these mergers unsettle longstanding conceptions of the identities of both, foregrounding the contingency and conventionality of widely-accepted notions of medium specificity. *Convergence Culture: Where Old and New Media Collide* (New York: NYU Press, 2006).

[15] Parks, *Culture in Orbit*, p. 9.

[16] Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 1999).

and Grusin coin this term to describe the ways in which “each medium responds to, redeploys, competes with, and reforms other media” (55). It is not merely the case that “new media” remediate their antecedents; so, too, Bolter and Grusin suggest, do established media engage with and mimic emergent ones. For instance, video sharing websites like YouTube.com remediate the form and function of television, while television in turn remediates the cluttered graphical compositions of websites. Though primarily concerned with the ways in which digitally-rendered media, including Virtual Reality and computer games, remediate their antecedents, each other, and that which they represent, Bolter and Grusin recognize this logic of remediation as operating across the history of media. Hence photography remediates painting, cinema remediates photography, television remediates cinema, and so on and so on.

As Bolter and Grusin themselves point out, their theory of remediation would appear to imply that media technologies possess an autonomy that allows them to independently act on and transform one another. Bolter and Grusin rationalize this as a rhetorical contrivance, rather than an endorsement of technological determinism. They explain: “When we do write something like ‘digital media are challenging the status of television and film,’ we are asking readers to treat this as shorthand. A longer, and less felicitous, version would be that ‘the individuals, groups, and institutions that create and use digital media treat these media as improved forms of television and film’” (78). Bolter and Grusin justify this shorthand by arguing that by “media” they never exclusively

refer to technical artifacts, but always to collections of objects, people, practices, and ideas. Thus, to speak of one medium as remediating another is really to speak of the interplay of multiple determining forces, and of clashes between the agendas of the many constituencies that use them.

Bolter and Grusin articulate three iterations of this logic of remediation. The first encompasses the dependent relationships that media enter into as they adapt each others' conventions to the specificities of their own technical properties and representational capabilities. Citing McLuhan's maxim that "the content of any 'medium' is always another medium," they contend that processes of adaptation are integral to the ontology of media, so much so that it would appear that "[m]edia need each other in order to function as media at all."[17] The second iteration of this logic of remediation pertains to the relationship of media to the real, and in particular to the ways in which media foreground the reality of the act of mediation by calling attention to the materiality of their own representational strategies, as well as to the representational strategies of the media they remediate. Media are "real" not only insofar as they can be materially manifested in the form of a photograph or videotape, but also because in performing the act of mediation they actively intervene in the world, shaping human bodies, behaviors, interactions, and beliefs.

It is Bolter's and Grusin's third and final restatement of this logic of remediation on which I base my conception of TV repair as discursive tinkering.

---

[17] Marshal McLuhan, *Understanding Media*, pp. 23-4; Bolter and Grusin, *Remediation*, p. 55.

As Bolter and Grusin note, “the word [remediation] derives ultimately from the Latin *remederi* – ‘to heal, to restore to health.’” They continue: “The assumption of reform is so strong that a new medium is now expected to justify itself by improving on a predecessor …. Each new medium is justified because it fills a lack or repairs a fault in its predecessor, because it fulfills the unkept promise of an older medium” (59-60). This assumption is particularly pertinent to digital media, many of which are identified by their promoters or proponents as making substantial improvements to the analog media whose functions they replicate. Consider, for instance, the ubiquitous (though ardently contested) claims regarding the advantages of digital cameras over film photography, compact discs over vinyl records, or DVDs over VHS tapes. Whether or not these new media actually make good on their own promises to improve their predecessors is certainly open to debate; that said, it is not just within the consumer electronics industries that a great deal rides on the assumption that they do. This unflagging belief in technological progress, as well as the conception of remediation as rehabilitation or reform that it engenders, is frequently mobilized by technology manufacturers or retailers in order to justify the considerable expenses of replacing fully functioning media technologies and systems with new or unproven ones. But, as the studies that follow indicate, it is just as often invoked by critics, policymakers, pundits, and viewers. This ideology of progress is about more than just moving units. It is also an expression of a desire for substantive change that

is rooted in a dissatisfaction with the media technologies and systems of the present day.

Bolter's and Grusin's concept of remediation has repercussions that extend far beyond the relationships that media enter into with their antecedents and successors. As media are seen to reform and be reformed by one another, they likewise may come to be regarded as active agents of social or political change. Frequently, these reforms are predicated upon the pretense that new communications technologies are more *im*mediate than the ones they seek to replace, and therefore afford their users opportunities to meaningfully intervene in the world. To illustrate this point, Bolter and Grusin cite the oft-repeated refrain that as it remediates television, assuming its place as our primary source of news and information, the World Wide Web will increase participation in civic life, in part by enabling individuals to "directly" participate in political deliberations. In a similar vein, in the 1960s it was widely suggested that home video technologies would democratize the production and distribution of television programming, and therefore empower subaltern populations to assume a more active and immediate role in local and national politics. This notion of remediation as reform voices a distinctly American form of utopianism, staked upon the belief that in technology lies the greatest hope for social advancement or even collective salvation. Digital technologies are but the latest inheritors of this tradition which, as James Carey and John Quirk note, stretches back past the period of America's electrification to the initial diffusion of steam-driven technologies during

the nineteenth century.[18] Within this tradition, the putatively inexorable march of technological progress has long stood as a guarantee of the imminence and inevitability of attendant social transformation. A central tenet of this faith in progress is the belief that by reforming itself, technology ultimately reforms the societies it defines.

As an incarnation of this durable technological determinist mythos, the notion of remediation as reform stands apart from the first and second iterations of Bolter's and Grusin's theory of remediation, both of which describe processes whose implications are immediately recognizable in media form and content. Remediation's first iteration can be observed across distinct media as they adapt and emulate each others' material properties, content, and/or representational strategies – for instance, when television networks compile programs out of Internet viral videos, and then present them in a manner that reproduces the graphical user interfaces of Web browsers or digital media players. Similarly, remediation's second iteration can be observed in our everyday interactions with and around media technologies and forms – for instance, when pedestrians go out of their way to walk around photographers so as to avoid interrupting the line of sight between camera and subject.[19] In comparison to these examples,

---

[18] James Carey and John J. Quirk, "The Mythos of the Electronic Revolution" in James Carey, *Communication as Culture: Essays on Media and Society* (New York: Routledge, 1989), 113-41; Howard P. Segal, *Technological Utopianism in American Culture* (Syracuse, NY: Syracuse University Press, 2005). See also Leo Marx, *The Machine in the Garden* (New York: Oxford University Press, 2000).

[19] Bolter and Grusin, *Remediation*, p. 59.

isolating the material consequences of remediation-as-reform is nowhere near as straightforward a task. Remediation-as-reform is a rhetorical turn – Bolter and Grusin term it “the rhetoric of remediation” – and, as such, it is concerned primarily with *perceptions* of what media are, about what they do, about their strengths and inadequacies, and about how these strengths and inadequacies impact individuals, institutions, or society as a whole. That said, these perceptions can have significant material consequences. The perception that one medium does its “job” better than another can change how people use media and what people use them for. It can cause us to abandon an old medium that is still functional or useful, or to reject a new one that may have something important to offer us. The perceptions fostered by this rhetoric of remediation grant certain media futures, and relegate others to obsolescence, leaving users and non-users alike to deal with the consequences.

Bolter’s and Grusin’s concept of the rhetoric of remediation provides a powerful analytic framework through which to consider television’s long history of interactions with new media. However, as they examine how various media go about rehabilitating their antecedents, Bolter and Grusin pay scant attention to the motivations and agendas that compel individuals and groups to act on the perceptions engendered by this rhetoric. As David Morley reminds us, “[a] certain degree of suspicion is always appropriate when someone presents us with a new technological solution to an old problem, involving questions such as *whose problem is it; who will benefit and who will lose from it – and of course – what*

new problems might this 'solution' create and for whom?"[20] With Morley's questions in mind, my case studies make every effort to identify what is at stake in the form of remediation that I call TV repair for those parties and individuals who have the most invested in television's rehabilitation, as well as for those with little or no interest whatsoever in television's problems or these technological solutions. To be sure, not all individuals benefit from TV repair equally. More often than not, the primary beneficiaries of new television technologies are privileged and powerful groups and individuals, including consumer electronics manufacturers, cultural elites, and economically-advantaged television viewers. In this respect, despite the utopian claims of the promoters, proponents, and users of new television technologies, TV repair does not undermine the domestic, economic, or political power dynamics that television sustains, but rather modifies technologies and practices so as to enable a status quo to persist under changing social and economic circumstances.

Becoming "New"

By now it should be abundantly clear that by "new media" I do not refer to digital media exclusively. This is in distinction to such influential theorists such Lev Manovich, for whom "new media" is an ontological, rather than historical, designation. According to Manovich, "newness" resides at the level of code, in the sequences of ones and zeroes that are the basis of the digitally-rendered

[20] David Morley, *Media, Modernity, and Technology: The Geography of the New* (London: Routledge, 2007), 253. Italics mine.

"new media object." Media thus "become new" as a result of the convergence of "two separate historical trajectories": those of representational media and the computer. Following this merger, "[a]ll existing media are translated into numerical data accessible for the computer. The result: graphics, moving images, sounds, shapes, spaces, and texts become computable, that is, simply sets of computer data. *In short, media become new media*."[21]

To think of "new media" as Manovich does as a universal ontological distinction is to isolate media technologies from the contexts in which they are designed, defined, and used. Novelty is never simply a question of analog versus digital. Nor, for that matter, are the terms "old" or "new media" objective periodizing distinctions, as is suggested by Manovich's allusions to the intersecting "trajectories" of various media's histories. Like the artifacts they describe, the distinctions "old" and "new media" are culturally constructed and contested within the context of shifting local practices and politics. Designating a medium "old" or "new" is itself a political act, with repercussions that extend beyond scholarly debates and corporate bottom lines. Much as media instantiate in their material forms and in the protocols that surround them the terms of the power relations between the many individuals involved in their creation, diffusion, and use, so too may the ways that we define new media reinforce or perpetuate

---

[21] Lev Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2001), 25. Italics mine.

these relations.[22] Though it may seem painfully self-evident to assert that what is new in one place may simultaneously be old in another, that novelty has a spatial, as well as temporal, dimension is largely overlooked in new media studies.[23] Likewise, it requires no great stretch of the imagination to argue that my own idea of what constitutes a new medium might not be the same as that of someone half my age, or twice my age, for that matter. The point of these seemingly facile observations is to foreground the unavoidable fact that location and age, as well as gender, ethnicity, and professional or class status, all bear heavily on the ways in which individuals and groups experience old and new media. The media whose histories I trace are the "new media" of specific populations and individuals, and not others. With that in mind, the following case studies reject the notion that "new media" is or can be an objective designation of a certain ontological status. Making no claims towards comprehensiveness, universality, or generalizability, my studies own up to the inclusions and deletions they are predicated on, and self-consciously foreground certain uses and users, and meanings and meaning-makers, at the expenses of others. Rather than

---

[22] Lisa Gitelman uses the term "protocols" to refer to the "huge variety of social, economic, and material relationships" that media express and organize. These protocols encompass patterns and conventions of consumption and use, mechanisms of distributions, essential technological and social infrastructures, regulatory structures, cultural forms, and mental models of what media are and do. Lisa Gitelman, *Always Already New: Media, History, and the Data of Culture* (Cambridge, MA: MIT University Press, 2006), 8.

[23] This is a principle made abundantly clear in chapter four, which exams the U.S. launch of mobile television devices and services that have existed in portions of Asia and Scandinavia for years. David Morley also broaches this subject in *Media, Modernity, and Technology*; See also Mark Poster, "Undertermination," *New Media and Society* vol. 1 no. 1 (1999): 12.

discount the value of the studies that follow, it is my intention that this disclosure should alert the reader to precisely that which is at stake in a project of this nature.

Throughout *TV Repair*, I take the term "new media" to mean media innovations during the periods when their material properties, uses, and, perhaps most importantly, cultural meanings are undefined or poorly defined, making them the subjects of intense negotiations between individuals, institutions, and other relevant social groups.[24] By this definition, media remain new up until that point at which the questions they raised at the moment of their introduction are replaced by a relative degree of consensus with regards to what they are, do, and *mean*.[25] This is as much a processes of social definition as it is one of technological progress. As individuals and groups hash out answers to these questions, a medium's technological properties are stabilized, and sometimes even codified in industry standards or federal regulations; likewise, its diverse cultural meanings gradually coalesce into something resembling a consensus

---

[24] See Gitelman, *Always Already New*, pp. 1, 15.

[25] In this respect, my work is deeply informed by the historiographic approach Trevor J. Pinch and Wiebe E. Bijker term "the social construction of technological systems," or SCOT. As Pinch and Bijker describe it, SCOT is concerned primarily with "describing technological artifacts by focusing on the meanings given to them by relevant social groups" (46) and with the processes by which the interpretive flexibility of technology over time become stabilized. See Trevor J. Pinch and Wiebe E. Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other" in Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch (eds.) *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: MIT Press, 1987), 17-51. See also Nelly Oudshoorn and Trevor Pinch (eds.) *How Users Matter: The Co-Construction of Users and Technology* (Cambridge, MA: MIT Press, 2003).

regarding its identity and place alongside other media within a particular culture and society. All this is not to say that the debates over new media are or can ever be fully or even satisfactorily resolved from the perspectives of their participants. But while it may be true that these negotiations never truly cease, but merely recede into the background, it is likewise true that there inevitably comes a time in a medium's history when questions about its technical properties, uses, and cultural meanings no longer seem quite so urgent, and begin to be overshadowed by answers. This consensus is always relative and subjective, a matter of perception rather than fact. In each of their dual articulations as technologies and as cultural forms, media remain pliable and pluralistic long after they would appear to have achieved a semblance of solidity and taken-for-grantedness.[26] My point is that the processes by which a new medium "matures" are fitful and uneven, and are experienced differently – and at different times – by different people.

The principles governing the stabilization of media technologies and their meanings and uses are also applicable in reverse. That is, much in the same way that new media "mature" and grow old, so too may old media "become new." By "become new," I am not referring to Manovich's notion that through digitalization old media are reborn as computable data. Nor, for that matter, does

---

[26] Roger Silverstone and Leslie Haddon, "Design and the Domestication of Information and Communication Technologies: Technical Change and Everyday Life" in Roger Silverstone and Robin Mansell (eds.) *Communication by Design: The Politics of Information and Communication Technologies* (London: Oxford University Press, 1998), 62.

“becoming new” refer to an old medium’s reinvention in a newer, more perfect form. Instead, I am primarily interested in the ways that convergence restores old media back to the state of material plurality and interpretive flexibility that characterized them at the moment of their initial introduction. As the case studies that follow indicate, television’s history provides many illustrations of the reversibility of these processes of consolidation. At numerous points throughout its history, television’s convergence with new media technologies has provided an occasion to reopen old debates about its technical properties, programming formats, viewing protocols, and industrial organization, debates thought to have been long ago brought to a close by regulatory action or institutional inertia. The frequency with which the consensus surrounding television’s technologies and cultural meanings unravels attests to the persistence of our faith in technology’s ability to repair or reinvent television and its problems, and the tenacity of electronics manufacturers campaigns to promote new media as technological fixes for the problems of old media. But at the same time, it is also possible to interpret the recursivity of these debates’ resurgence as indicating the fragility of this consensus. Each time this consensus unravels, it becomes apparent that television itself is the product of uneasy compromises. This suggests to me that convergence does not reinvent old media in a new form so much as it reveals what media are and always have been: unstable and contingent ensembles of artifacts, practices, and messages, held together in an ad hoc fashion by concessions made under duress.

In studying the processes by which new media transition from plurality to stability and back again, we are confronted with pressing questions of agency and determination. Does the stabilization of a medium's technological properties result in a consensus regarding its meanings and uses? Or does consensus pave the way for competing prototypes to be consolidated into a single standardized design? Along similar lines, does technological innovation unsettle the closure that exists around established media, or is it the unraveling of this closure that inspires engineers and inventors and the companies they work for to reexamine hardware standards and product designs? While I resist the notion that a medium's technological properties are the stable base on which its cultural meanings stand, I am equally wary of ascribing unlimited agency to abstract social forces that act on technology from without and without constraints on their agency. I thus approach the case studies that follow with Raymond Williams' injunctions against both technological determinism and the notion of "determined technology" in mind. Williams' account of the invention and diffusion of television restores questions of *intentionality* to discussions of technological change, demonstrating how the needs and interests of various social groups came to bear on television's early development as a technology. Rather than swapping one form of determinism with another, Williams directs our attention to the ways that these intentions shape and are shaped by the technical properties of media technologies. Though these intentions may set the stage for negotiations over a

technology's uses and meanings, he suggests that they alone do not determine these negotiations' outcomes. Rather, he writes:

> We have to think of determination not as a single force, or a single abstraction of forces, but as a process in which real determining factors – the distribution of power or of capital, social and physical inheritance, relations of scale and size between groups – set limits and exert pressures, but neither wholly control nor wholly predict the outcome of complex activity within or at these limits, and under or against these pressures.[27]

Under the highly pressurized conditions that Williams describes, the relationship between a technology's material artifacts and cultural meanings becomes convoluted. As Williams so aptly demonstrates, the task of the historian is not to untangle these networks of determinations. Rather, it is to diagram these networks in all of their complexity, or rather in all of the complexity that the illusory consensus surrounding media technologies occludes.

---

[27] Raymond Williams, *Television: Technology and Cultural Form* (London: Routledge Classics, 2003), 133.

Chapter Outline

According to Bolter and Grusin, in many instances the faults of old media only become apparent after the promoters or proponents of new ones have identified and publicized them. “Typically,” they write, “users did not realize that the older medium had failed in its promise until the new one appeared.”[28] Many new media are, to a very real extent, solutions in search of problems. In those cases when awareness of the flaws of an older medium simply does not exist, it falls to the new medium’s promoters and proponents to find or, bar that, create reasons for users to become dissatisfied with the old medium’s performance. The “supposed virtue” of a new medium often only becomes apparent as a result of the concerted efforts its promoters and proponents make to educate potential users about its predecessors’ failings (60). The marketing of new media is in this respect the marketing of old media’s flaws: as ad campaigns and promotional hype tout the many features and benefits of new media, they also carry out the equally important task of instructing users how to identify the failures of the media they would replace.

To television, this principle simply does not apply. An acute awareness of television’s perceived imperfections antedated the advent of the media my case studies examine, in many cases by decades. As my first chapter shows, even before television’s post-World War II relaunch as a consumer product, many Americans were already acutely aware of the limits of television’s technologies.

---

[28] Bolter and Grusin, *Remediation*, p. 60.

Television was widely hailed in this period as a technological marvel of unprecedented complexity. Still, after decades of predictions about wall-sized television receivers, two-way communication by television, and interactive television, the tiny screens, poor reception, and monochrome images of the first sets to reach the market understandably left some viewers with mixed feelings about the new medium.[29] Electronics manufacturers assured television's early adopters and holdouts as well that these setbacks were only temporary, and that staggering technological advances, including color broadcasting, were literally just around the corner. But amidst rumors that future standards for color or UHF (ultra high frequency) broadcasting could possibly render current sets obsolete, these promotional efforts likely compounded consumers' ambivalence toward television, lending weight to the notion that television remained in thrall to its technical shortcomings.

Amongst the first of these technological advances to reach the market were remote control tuning devices. Initially, the uses of these devices were quite prosaic. Remote controls offered a straightforward means of compensating for one of television's most familiar (and annoying) technical drawbacks: its cumbersome and unforgiving tuning controls, which necessitated frequent and skillful adjustment before an acceptable picture could be obtained. Over the course of the 1950s, however, remote controls would assume a significance that belied their still modest functionality when their manufacturers rebranded them as

[29] Uricchio inventories late nineteenth and early twentieth century speculations about television in "Old Media and New Media: Television," pp. 220-4.

devices that granted their operators awesome powers of control. Manufacturers pitched many of these promotional efforts at male viewers, holding out the promise that remote controls would restore the authority and autonomy that television had taken from them. During this period, television's impact on men's status within the home and within society at large was a subject of considerable concern amongst the medium's critics and audiences, many of whom worried that television had displaced men from their rightful places at the head of their households. Against the backdrop of these concerns, set manufacturers constructed around their remote control devices elaborate fantasies of total effortless control over the television receiver, its programming and advertisements, and its customary domestic setting. The remote control thus became a totem of domestic authority, as well as a means of exercising it on an everyday basis. In this respect, a device initially promoted as a technological fix for a technological problem became a "solution" for one of the social dilemmas television presented its audiences.

Examining internal corporate documents, marketing materials, hobby magazines, do-it-yourself television repair guides, and pop culture texts from comic strips to television sitcoms, this chapter reveals that the domestic power struggles that were the subjects of these promotional strategies were embedded within much broader *industrial* power struggles between the advocates of competing conceptions of television's technologies, programming, and economic model. Throughout the 1950s, television remained the subject of quite vigorous

technological and discursive tinkering as networks, electronics manufacturers, and federal regulators attempted to hash out the technical details of the still-new medium's next generation. Within the context of these industrial power struggles, remote tuning technologies – or, more accurately, their promotional campaigns – carried out important strategic functions. Remotes were symbols of a particular vision of television's future, one in which viewers would enjoy greater choice and control and a more diverse selection of programming than was available to them in the network-dominated system of commercial broadcasting. From their manufacturers' standpoint, remotes also presented a means of making this vision a reality. By using their ad campaigns to encourage viewers to zap annoying programs and objectionable commercials, the manufacturers of remote controls worked to cultivate viewers' dissatisfaction with advertiser-supported television, and attempted to ready them for a day when new media would "liberate" television from the constraints imposed on it by the technical properties of its hardware and the economic properties of the American system of commercial broadcasting.

Chronologically, chapter two picks up where chapter one left off, focusing on the pre-history of consumer video technologies, a period lasting roughly from the early 1960s to the mid-1970s. Thematically, this second chapter shifts attention away from new media technologies' producers and consumers to the intermediaries who act as liaisons between these two constituencies. Following its explosive growth in the 1950s, television began the 1960s embroiled in

controversy following a series of national scandals. Though more popular (and profitable) than ever before, television was plagued in this period by the perception that it had fallen miserably short of the lofty goals set out for it by its earliest advocates. In the press, exacerbated critics regretfully reported on the networks' decisions to replace many of their most lauded live dramatic programs for cheaper (and more popular) series, including quiz shows, Westerns, and sitcoms. Meanwhile, in policy discussions and social scientific literature, television became a convenient scapegoat for many of the problems thought to be afflicting the nation, ranging from juvenile delinquency to the faltering economy to key setbacks in the battle against communism. It was during this time of scandal and introspection that a number of commentators identified brand new home video technologies as a potential solution for the problems of and caused by television. Video's supporters came from many precincts, and harbored diverse aesthetic, social, and economic agendas. Still, many shared the notion that video could be an alternative to television's advertiser-supported model of broadcasting, allowing for the small-scale distribution of specialized programming to niche audiences.

My account of this period focuses in particular on one of these constituencies: the critics who covered television for middlebrow magazines and the nation's newspapers of record. As intermediaries between video technologies' manufacturers and potential users, these critics exerted a significant influence on discussions of video's meanings and uses as a

technology of TV repair, both within the popular press and, as this chapter shows, within electronics manufacturers' engineering and marketing departments. For these critics, video's most promising traits were its selectivity and its purposefulness. Viewers would no longer be limited to the offerings of the three broadcast networks, they claimed, but rather would choose their own programming from a potentially limitless catalogue, and would watch on their own time, when it was convenient to do so. In this respect, they argued, video would transform television into a truly democratic medium, replacing the illusory cultural democracy of television's ratings system with a free market of ideas in which any taste – including these critics' own – would be amply catered for.

Of course, in describing this free market democracy, critics largely took it for granted that video's catalogue would be heavy on "serious" music, selections from the legitimate stage, instructional programming, and other edifying fare not typically found on the broadcast networks. Though stimulated by electronics manufacturer's descriptions of the capabilities new video technologies, these critics' conceptions of video's cultural meanings, appropriate uses, and ideal users were very much motivated by old-fashioned cultural hierarchies. The subject of this chapter is this interplay between old and new, between the aesthetic and moral agendas of high-minded cultural elites and the economic agendas of technology manufacturers. It shows that rather than being separate or antithetical, cultural and commercial agendas in fact become deeply entangled within the context of the forms of discursive tinkering I call TV repair. In this

particular case, the weave of these priorities resulted in unlikely, though short-lived alliances in which video manufacturers drew on the cultural authority of esteemed critics to legitimize their products, while critics looked to video to perpetuate the cultural hierarchies over which they presided.

After two chapters on television's earliest decades, chapter three fast-forwards to the late 1990s and the advent of digital technologies that enhanced the television audience's capacity to "time-shift," or record broadcasts for more convenient playback. The 1990s saw a revival of the reformist spirit so prevalent at the advent of home video technologies nearly thirty years earlier. Not that these sentiments had ever truly subsided: in the intervening years innovations ranging from videotext to video games had inspired predictions of television's impending technological reinvention. The 1990s, however, were a period of seemingly boundless faith in the ability of new media to solve television's problems. Two important catalysts for this surge of faith in television's ideology of progress were the proliferation of networked personal computers and the economic boom that accompanied the emergence of on-line commerce. Alongside these developments, established consumer electronics manufacturers, software companies like Microsoft, and Silicon Valley startups all tried their hands at designing digital television technologies that would bring the capabilities of the personal computer to the television set.

My account of this period of innovation concentrates primarily on the digital video recorder, a technology that has alternatively been celebrated and

reviled for its potential to revolutionize American television and, beyond that, the mass market economy of which television is such an integral part. The inflated rhetoric surrounding DVRs at the turn of the century evoked themes familiar from the promotional blitzes that had accompanied the introductions of remote controls and home video systems decades before. By harnessing the powers of computers and computer networks, the promoters and proponents of digital television technologies contended, DVRs would empower viewers to take control of television once and for all, fulfilling the objectives of generations of reformers. But here, empowering television viewers came to mean much more than just giving them additional choices and controls over what and when they watched. It also meant providing them with the technological resources they needed to transform their own lives, to make themselves and their family members over as more productive and self-reliant members of society. In venues ranging from parenting advice websites to policy discussions to self-help books, the DVR's many supporters encouraged viewers to use these devices to *rationalize* their and their families' consumption of television – in other words, to protect children from inappropriate programming, to avoid the inefficiencies of channel surfing, to save seconds by zipping through advertisements, and even in some cases to watch all programming at fast-forward speeds. Rationalizing television became in these and many other contexts synonymous with rationalizing one's own self, or with streamlining and refining everyday activities so as to take control of the trajectory of one's own life.

The autonomous and rational viewers who populated these discourses of TV repair were exemplars of the autonomous and rational self-governing citizen-consumers idealized by contemporary political and economic thought. Chapter three draws out the connections between television's ideology of progress and the dominant political and economic philosophies of the "information age." The thrust of these philosophies is towards the "responsibilization" of the individual: in other words, towards "empowering" people to take responsibility for their own personal welfare. Along similar lines, the DVR's discourses of TV repair stimulated television viewers to use digital technologies to take responsibility for their own viewing, with the understanding that by doing so they become better able to carry out their responsibilities to themselves, their families, and to society as a whole. The confluence and conflation of these responsibilities points towards a new configuration of television's ideology of progress, one in which viewers stand to assume an enlarged role in carrying out television's transformation. That said, this case study also illuminates an important continuity between this and past moments of TV repair. At all of the moments my case studies consider, the promoters and proponents of new media technologies open the door for viewers to participate in television's reinvention or reform, but only as consumers, and never as activists, artists, inventors, etc. This was particularly the case with respect to the DVR. Within the context of the DVR's discourses of TV repair, the responsibilities of the television audience amounted to a

responsibility to become more “efficient” consumers of television programs, of new technologies, and of interactive services.

My final chapter addresses the persistence of television’s past(s) within conceptions of its technological future(s). My parenthetical plurals here are reminders that within the context of discourses of TV repair, both are multiple and contested. In this chapter, I return to the themes of masculinity, domesticity, and control first introduced in chapter one, this time in reference to new personal portable media devices. Through advertisements, art works, marketing materials, trade journal reports, and pop culture texts, I reflect back on the many different ways that the concept of mobility has been deployed in relation to television spectatorship. Since television’s advent, its domestic ties have been a source of considerable ambivalence. Mobile television’s discourses of TV repair have become the latest venue where these mixed feelings are aired and worked over. The manufacturers of mobile media devices promote their products as a means of escaping confining domestic environments for a life of perambulatory public leisure. In advertisements for products like iPods and cell phones, watching television outside the home is a liberating experience, a means of severing the spatial and social ties that limit where and when we consume. Characteristically, these fantasies of flight from the middle class home are often accompanied by assurances that these same mobile technologies will transport the sense of disembodied mastery and control over domestic space engendered by remote controls into public environments. Viewers are thus invited to leave home, on the

understanding that while they are away they will sacrifice none of the comforts or conveniences they enjoy there. In this respect, it is not only television that these devices make mobile, but also the social and technical relations it organizes within the context of the middle class home.

The manufacturers of mobile television technologies offer these devices as a means of propelling television (and its audiences) into a putatively "placeless" mobile future, one in which all spaces will be interlinked via the mobile media devices we carry (or soon will carry) on us at all times. However, from multiple standpoints, their projections of this future look suspiciously like television's past, or at least one nostalgically rendered version of it. This chapter underscores that the "revolutionary" claims made by the promoters and proponents of new media belie that TV repair is often a rather conservative project, the intended outcome of which is not to radically restructure existing technologies or social relations, but to recuperate a waning status quo. With regards to mobile television technologies, this conservatism manifests in two ways: first, in the promises manufacturers make to viewers that mobile television devices will extend customary forms of domestic authority into the hybridized media spaces of television's "placeless" future; and second, in the design and implementation of mobile television hardware and services, many of which actually reinstate in these hybridized media spaces the very constraints from which they promise to free mobile viewers.

As my first and second case studies demonstrate, long before “YouTube” or even “Microsoft” were household words, audiences experienced television as a convergence medium, characterized by volatility and hybridity. Turning our attention to these earlier moments of collision, synthesis, and change yields valuable perspective on DVRs, mobile television devices, and the many other new media technologies of our contemporary “convergence culture.” Even more importantly, a nuanced understanding of television’s history as a convergence medium equips us to evaluate and make meaningful contributions to discussions of television technologies that have yet to be introduced. Regardless of the timeliness (or un-timeliness) of Bill Gates’ remarks at Davos, there can be little doubt that new media will continue to inspire debates over television’s properties, meanings, and effects long after his five-year window for its reinvention has closed. In these debates, television’s technological history will again become contested ground, and subject to revision and reinterpretation by those who seek to harness new technologies to augment their control over television, its programming, and its viewers. These new histories can be written in a manner that reaffirms the mythos of technological progress, thereby lending gravity and urgency to electronics manufacturers’ and media conglomerates’ promotional pushes. Alternatively, they can be written in a manner that confronts us with our tendency to see television’s problems as isolated and able to be fixed by discrete technological solutions. I offer this dissertation as an attempt to do the latter, to

re-write portions of television's history so as to intervene in the unfolding of its future.

One
Close Quarters, Remote Control

To promote Space Command, its newest television remote control device, Zenith Radio Corp. in 1957 hired the husband and wife comedy team George Burns and Gracie Allen as spokespeople. In a print advertisement that played on the duo's screen personas and the show-within-a-show format of their CBS television program *Burns and Allen*, George and Gracie appear on either side of the screen of one of Zenith's receivers. George occupies the advertisement's foreground, where he holds a Space Command remote control, his finger poised just above its mute button. Gracie meanwhile appears on the screen of the Zenith Beauville that George is watching. "'Look out, Gracie!'" a bemused George warns his wife. "'With Zenith Space Command TV I can change programs from across the room'…" Trapped within the television set, Gracie pleads with her husband to reconsider, crying out "'George!.. You wouldn't dare!'"

As television found its way into more and more American households during the 1950s, the question of who would control the television set, and therefore the family's access to television programming, became a subject of considerable consternation, both within and outside the home. From the moment

of their introduction in the late 1940s, remote control devices were thrust by their manufacturers into the middle of these debates. Within the context of electronics manufacturers' promotional campaigns, remote controls did much more than simply allow viewers to change channels from across the room. In Zenith's Burns and Allen advertisement, control of the set became a metonym for absolute patriarchal authority: with a single push of a button, George could silence Gracie, the unruly, loquacious woman, and television, the unruly, loquacious box in the living room. Other advertisements from this period showed men using pistol-shaped remote controls to defend their homes and families from insipid programming and aggressive advertisers, in effect patrolling the porous borderlands between the domestic and public spheres with remote controls in hand. These masculinist fantasies of technologically-augmented control proliferated against the backdrop of widespread concerns that both as a technology and a cultural form television compromised men's authority, autonomy, and masculinity.[1] At a moment when critics and pundits accused television of making men soft, and television programs of making men out to be impotent idiots, electronics manufacturers promoted remote control devices as a technological means of shoring up the control they had sacrificed when they had welcomed television into their homes. Remote control devices became in advertisements such as these weapons in the battle of sexes and in the war being waged by advertisers on the television audience's peace of mind. In both

---

[1] See Lynn Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), 60-5.

of these conflicts, men were shown wielding new television technologies as a means of resisting their incorporation into a feminine and feminizing consumer culture that was symbolized by television, its programming, and its domestic context.

The nuclear family's private domestic power struggles over control of the television set coincided with very public disputes between broadcasters, sponsors, and consumer electronics manufacturers over the future of the still-new medium.[2] Remote control technologies would come to factor prominently in these debates as well. Well into the 1950s, television's technical properties, programming formats, and economic model all remained in flux. Though a series of measures passed by Congress and the FCC in the 1940s had codified the technical standards and economic principles of the advertiser-supported system of network-dominated monochrome broadcasting in the VHF (very high frequency) band, throughout this period the exploration of alternative designs and uses for the television receiver, alternative programming formats, and alternative methods for funding the television industry's operations continued unabated. Zenith was at the forefront of these explorations, and spent much of the period of television's nascence developing a system of broadcasting that it hoped would

---

[2] William Boddy provides the definitive accounts of industrial debates over television in his *Fifties Television: The Industry and Its Critics* (Urbana, IL: University of Illinois Press, 1993). See also Vance Kepley Jr., "The Weaver Years at NBC" *Wide Angle* vol. 12 no. 2 (1990): 46-63; Erik Barnouw, *The Sponsor: Notes on Modern Potentates* (New York: Oxford University Press, 1978). Alexander Magoun gives a comprehensive overview of negotiations over television's technological standards in *Television: The Life Story of a Technology* (Westport, CT: Greenwood Press, 2007).

replace the system instituted after World War II. In Zenith's system, special programs would be transmitted via scrambled signals to viewers' homes on a pay-per-view basis. As Zenith labored to secure FCC approval for its pay-TV service, the company used the remote control as a means of disrupting or delaying the stabilization of television's technical properties and cultural meanings. It did so by promoting remote control devices as a means of silencing grating television commercials. In its promotional campaigns and product designs, Zenith cultivated viewers' discontent with the present system of commercial television in the VHF band, and urged viewers to see this system as nothing more than a temporary and provisional compromise that would soon be superceded by its noncommercial alternative. In the meantime, Zenith prepared consumers for television's future by selling them sets compatible with both its pay-TV system and the new UHF (ultra high frequency) television channels that were slated to go on the air in the coming decade.

Examining the design and marketing of television remote control devices between 1949 and 1960, this chapter draws out the connections between these domestic and industrial power struggles. The remote control presents a logical starting point for a genealogy of TV repair, as its own period of novelty roughly coincided with that of television itself. Already, within years of television's post-World War II relaunch as a consumer product, companies like Zenith were encouraging Americans to look forward to television's next generation, to

anticipate a day when television would transcend the limitations imposed on it by its technical properties and reliance on advertiser support.

Pink Pills

Throughout the 1940s and 1950s, media reports and corporate PR stoked consumers' imaginations about television's future with predictions that color, TV tape recorders, mural televisions, and other equally astonishing inventions were just around the corner.[3] The popular culture of the day forecast a still more fantastic future for television: in Tex Avery's 1953 animation *T.V. of Tomorrow*, television receivers were equipped with anti-aircraft guns to combat interference caused by passing airplanes, and garbage disposals to eliminate annoying commercials.[4] Throughout the postwar period, the television receiver was widely revered as a technological marvel and a national point of pride. Yet the idea that television technologies were immature, and would continue to develop and add new capabilities, was largely taken for granted. So prevalent was this notion that

---

[3] See, for instance, "Is Your Set Obsolete" *Time* (March 21, 1949); "What's Ahead in TV" *Popular Mechanics* vol. 99 (March 1953): 150-3; "Looking into TV, Radio Future" *Science Digest* vol. 37 (February 1955): 95; M. Harper, "TV for Tomorrow" *Harper's Magazine* vol. 208 (February 1954): 92-4; William S. Barton, "Confusing: Upsy-Daisy Gazers See Three-D TV" *Los Angeles Times* (April 30, 1956): 2.

[4] *T.V. of Tomorrow*, dir. Tex Avery (MGM, 1953).

even Ralph Kramden of *The Honeymooners* took confidence in the knowledge that as a technology television remained a work in progress. At the outset of that series' 1955 premier, Ralph dismissed his wife Alice's pleas to purchase a set, coolly informing her that he was holding off for 3D television. Ralph's reluctance to buy a TV reflected more on his legendary stinginess than on a genuine interest in being on technology's cutting edge. Still, his hesitancy would have resonated with many consumers in this era, as they themselves confronted the very real possibility that the television receivers they purchased today would soon be rendered obsolete.[5]

The postwar period's fascination with futuristic television technologies at least in part grew out of the growing audience's awareness of the technical defects that plagued many early receivers. The first television receivers to roll off assembly lines following the lifting of wartime restrictions were extremely unreliable, with an estimated one in three sets reported defective on delivery.[6] In 1948, *Time* addressed the issue of television's technical difficulties, observing that

> [f]or all its show of energy, television is still in far from perfect health. Its images are often spotty, blurred or barred with interference. Many owners have found that their sets cannot pick up all, or even most, of the stations

---

[5] *The Honeymooners*, "TV or Not TV" (CBS: October 1, 1955).
[6] Lisa Parks, "Cracking Open the Set: Television Repair and Tinkering with Gender, 1949-1955" *Television and New Media* vol. 1 (2000): 264.

> in their area. Airplanes overhead cause the pictures to squirm, fade or whirl. Most screens, too small for comfortable viewing, bring on headaches.[7]

To combat the balkiness of the first postwar generation of receivers, set manufacturers, entrepreneurs, and more than a few hucksters rushed to market what *Time* described as "costly pink pills," or add-on accessories designed to address their susceptibility to interference, weak reception, and breakdown. Amongst these "pink pills" were the first remote tuning devices. For example, in 1949 RCA Victor bundled a one-knob, one-function remote control with a projection set that had a problem with its power supply that caused it to frequently lose focus, necessitating repeated adjustments to its fine tuning. Here, the remote control was literally a technology of TV repair, a technological fix that went after a problem's symptoms, yet did nothing to address its source.[8]

In the following years, remote control tuning would become increasingly common as an optional accessory for a number of set manufacturers' top-of-the-line receivers. But well before this point, television's promise of sight at a distance had already been linked in popular discourses to the remote control of the television apparatus. From the 1920s onward, writers, illustrators, and inventors imagined that when television receivers became available for use in the home, viewers would enjoy the ability to control or even interact with the images

---

[7] "Gadgets for Bobbles" *Time* (June 28, 1948).
[8] URL (Accessed May 8, 2008): http://www.myvintagetv.com/rca_9pc41.htm/.

they saw by means of handheld devices. On two occasions in 1925, issues of Hugo Gernsback's magazine *Radio News* carried cover illustrations depicting genteel spectators clutching wired controls as they took in a program on their "televisors," and stories in the same publication anticipated that by 1935 remote control would be a standard accessory for all radio and television sets.[9] Throughout the 1920s, *Radio News* and other hobby-oriented magazines published articles instructing readers how to build their own motor-driven devices for tuning their radios from across the room. Mass-produced radio remote controls soon followed, and by the 1930s a number of manufacturers had begun to offer remote controls as optional accessories with their receivers. In 1938, Philco introduced the first wireless remote-control tuning accessory, prompting *New York Times*' radio editor Orrin E. Dunlap to predict that the year would later be remembered for the widespread adoption of remote control.[10] By that time, however, the high cost of remote-control receivers, coupled with the growing popularity of smaller tabletop radios, had already begun to hurt remote control sales. These declines would carry over into the 1940s, with wartime restrictions bringing the manufacturing of new radio remote controls to a halt for the duration of World War II.[11]

---

[9] Hugo Gernsback, "Radio in 1935" *Radio News* (May 1925).
[10] Orrin E. Dunlap, Jr., "Dial Becomes a Keyboard" *New York Times* (October 16, 1938): 168.
[11] W.A. Nail, "Remote Control Devices for Radio Receivers 1925-1939" (Chicago: Zenith, 1956), Remote Control File, Zenith Radio Corp. Company Records, Lincolnshire, IL. (Hereafter referred to as Zenith Records). Louise Benjamin, "At the Touch of a Button: A Brief History of Remote Control" in James R. Walker

As was the case with many other communications technologies, remote control technologies would greatly benefit from wartime breakthroughs. During the war, the principles of remote control found applications in a number of settings, ranging from factory assembly lines to aircraft artillery to the fabrication of the atomic bomb. In addition to advancing the state of the art in the fields of automation and telemechanics, wartime uses of remote control gave a sizeable portion of the population their first exposure to a way of interacting with and relating to technology that would become increasingly prevalent in the postwar period. In these interactions, the body of a machine's human operator was marginalized and immobilized even as its capabilities were extended and amplified many times over. Operators were physically separated from the machines they controlled, yet engaged with their interfaces in an intimate, haptic manner. Technologies of remote control translated fragmentary and precise movements of their operators' hands or digits – for instance, a flip of a switch, a push of a button, or a turn of a rheostat dial – into sequences of operations conducted on a much larger scale. In these human-machine assemblages, brute power became secondary to manual dexterity, and the subtlest of movements on the operator's part became capable of initiating awesome physical feats.

The more stable television receivers became, the less remote controls were viewed as compensatory pink pills. Still, the remote control maintained its identity as a technology of TV repair long after manufacturers had worked out the

---

and Robert V. Bellamy, Jr. (eds.) *The Remote Control in the New Age of Television* (Westport, CT: Praeger, 1993), 15-6.

kinks that had plagued early receivers. As Avery's *T.V. of Tomorrow* humorously suggested, television's problems in this period were not exclusively technical in nature. On the contrary, as the example of a television set with a built-in garbage disposal for eliminating annoying commercials intimates, contemporary observers found television's rampant commercialism to be every bit as pressing an issue as poor reception.

Lazy Bones and Blab-Offs

In 1950, Zenith and Philco both introduced television receivers equipped with wired remote control units capable of changing channels, and, in the case of Philco's model, turning the set on and off and adjusting its volume and fine tuning.[12] Zenith and Philco initially promoted their remote controls as labor-saving devices, not unlike the many small household appliances and gadgets introduced during this period. Whereas labor-saving devices typically promised to lighten the load of household chores, ostensibly creating more opportunities for leisure, Zenith, Philco, and the many other set manufacturers who would follow their lead offered remote controls as a means of reducing the technical "work" involved in tuning in television broadcasts. Zenith, for example, promoted its remote control under the trademark "Lazy Bones," calling it "the greatest aid to relaxation and comfort that's ever happened to television!" – a promotional strategy company

[12] *Better Homes and Gardens* vol. 29 (December, 1950).

executives privately referred to as "the lazy man's approach."[13] But as the decade progressed, this lazy man's approach gave way to one in which remote control devices were promoted as a means of actively defending the homestead from television's most unwelcome intruders: its advertisers.

The early 1950s saw the first stirrings of a growing disenchantment with television commercials that would peak later that decade in the Quiz Show Scandals, in which it would be revealed that sponsors had routinely fixed the outcome of popular game shows.[14] But even before news of the quiz shows' fraudulence broke, anti-ad sentiment was already approaching "epic proportions," fueled by a steady stream of articles and editorials about television commercials' tastelessness, noise, quantity, and tactics.[15] A milestone in this escalating backlash against advertisements was the 1957 publication of Vance Packard's rather paranoid exposé *The Hidden Persuaders*, which detailed the array of scientific tactics advertisers employed to plumb consumers' psyches and manipulate their purchases. Packard presented these tactics as forms of psychological programming, not unlike the "brainwashing" performed by

---

[13] *Chicago Tribune* (October 1, 1950): S11; *Los Angeles Times* (December 11, 1950): 18; Memo, Leonard C. Truesdale to E.F. McDonald (October 2, 1957). 1957 Interoffice Memos (Box 1 of 2), Advertising Folder, Zenith Records.
[14] The Quiz Show Scandals are discussed in greater length in relation to the development of home video technologies in chapter two.
[15] Lawrence Samuel, *Brought to You By: Postwar Television Advertising and the American Dream* (Austin, TX: University of Texas Press, 2002), 59. See, for instance, Jack Gould, "Double Middle Commercial" *New York Times* (October 18, 1953), X13; Marya Mannes, "Channels: Those D–n Commercials" *The Reporter* (March 2, 1954): 40-2; "Insufferable," *Newsweek* (February 1, 1954): 75; Gould, "Restraint Needed" *New York Times* (October 2, 1955): X11.

communists regimes, in which "[p]eople's subsurface desires, needs, and drives were probed in order to find their points of vulnerability." Practitioners of this "depth approach" sought to penetrate the subjectivities of individual consumers, a project Packard likened to an invasion of the privacy of consumers' minds.[16] The outcome of these tactics, Packard argued, was that individuals were stripped of their agency, and rendered entranced zombies conditioned to purchase on command.[17] Packard's critique hinged on his spatialization of human consciousness as a private zone, something that could be penetrated and inhabited by hostile forces.[18] "The most serious offense many of the depth

---

[16] Vance Packard, *The Hidden Persuaders* (New York: IG Publishing, 2007 [1957]), 57, 240.

[17] As Timothy Melley has written, Packard's thesis was predicated on an extremely reductive theory of ideology in which "social control [is] … a mysterious and magical process, activated instantaneously and capable of utterly disabling rational self-control." Melley finds evidence of this theory across a wide range of postwar literary and nonfiction texts, an occurrence he interprets as cultural symptoms of a much broader set of anxieties brought about by the waning of a privileged model of bourgeois subjectivity as coherent, bounded, and the private property of the individual. Timothy Melley, *Empire of Conspiracy: The Culture of Paranoia in Postwar America* (Ithaca, NY: Cornell University Press, 2000), 5, 15.

[18] Packard's conception of the mind as a private space under seige by foreign invaders resembled Cold War-era anxieties about communist psychological warfare tactics, and in particular the mythical practice of brainwashing. Throughout the postwar era, brainwashing was the subject of intense speculation on the part of U.S. government officials, journalists, and Cold War propagandists, many of whom warned that Soviet and Chinese communists had developed advanced techniques of psychological control with which they transformed both prisoners and their own citizens into obedient ideologues or, even more chillingly, programmed killers. These fears would surface in many popular narratives of the period, including most famously that of Richard Condon's 1957 novel *The Manchurian Candidate*, and, as David Seed has suggested, would also prove influential to the brand of popular social criticism practiced by Packard. Seed,

manipulators commit," Packard wrote in his book's concluding paragraph, "is that they try to invade the privacy of our minds. It is this right to privacy in our minds – privacy to be either rational or irrational – that I believe we must strive to protect."[19] Consonant with bourgeois ideals of privacy, personal property, and homeownership, Packard's spatial metaphor set the stage for thinking about advertisements as an invading force from which consumers struggled to protect themselves and their households.

By nature of its presence within the home, television was understood to provide these "hidden persuaders" with a beachhead from which to stage their invasion of the consumer's private world and privacy of mind. According to advertising's critics, a primary channel through which this assault was carried out was the television soundtracks. As Spigel shows, throughout the 1950s critiques of television commercials frequently focused on the "shrill, loud, irritating and *intrusive*" qualities of their soundtracks. Though a 1956 investigation by the Federal Communications Commission (FCC) failed to corroborate the widely-held suspicion that advertisements were presented at volumes that were significantly louder than the programs surrounding them, the perception that television commercials' soundtracks constituted, in Spigel's words, "an invasion by the market of someone's private territory and unconscious mind" persisted

---

Brainwashing: The Fictions of Mind Control (Kent, OH: Kent State University Press, 2004), xvii, 35.

[19] Packard, *The Hidden Persuaders*, p. 240.

throughout the decade.[20] In discussions of television advertising, the metaphor of invasion was pertinent both to the insidiousness and volume of commercial soundtracks and to advertisements' frequent interruptions of television programming. In both cases, television advertisements were regarded as invading forces that insinuated themselves into the private realms of the viewer's home and consciousness with bombasts of sound and salesmanship.

Controversy over television advertising provided television networks with ammunition in their efforts to wrestle control of their schedules away from powerful sponsors and advertising agencies. Throughout the 1950s, the U.S. television networks, led by NBC, sought to gradually wean their sponsors off a model of program financing within which sponsors enjoyed near-total control over particular programs and timeslots. NBC's alternative was "magazine" style advertising, in which sponsors distributed their advertisements across multiple programs scattered throughout a schedule constructed by the networks themselves. The networks were emboldened in their efforts to transform television's advertising market by audience's and critics' increasingly widespread mistrust of and annoyance with television commercials.[21] But overall, the

---

[20] Lynn Spigel, *TV By Design: Modern Art and the Rise of Network Televsion* (Chicago: University of Chicago Press, 2008), 299-300, 302. Emphasis added. Jack Gould, "Restraint Needed: Commercials on American Programs More Annoying Than British Plugs" *New York Times* (October 2, 1955): X11.

[21] For more on the shifting balance of power between sponsors and the networks in this period, see Vance Kepley Jr. "The Weaver Years at NBC" *Wide Angle* vol. 12 no. 2 (1990): 46-63 and William Boddy, *Fifties Television: The Industry and Its Critics* (Urbana, IL: University of Illinois Press, 1993), 155-167. In the midst of this power grab, the networks would themselves come under intense scrutiny

transition between these models was long and drawn out, lasting well into the 1960s. By comparison, motivated entrepreneurs and hobbyists were much more quick to react to this rising tide of criticism, and devised numerous technological "fixes" for television's relentless commercialism. During the early 1950s, hobbyist magazines and newspapers offered simple schematics for building inexpensive "remote control shushers," providing do-it-yourselfers with all the information they needed to assemble devices that would enable them to silence commercials from across the room.[22] Less technologically-adept viewers could purchase pre-assembled accessories like the TV Hush, which diverted television's audio feed from the receiver's main loudspeaker to a small remote speaker equipped with its own volume knob, and the Blab-Off, which enabled viewers to kill the sound from their sets with the flick of a switch.[23] Marketing for the Blab-Off stoked the audience's dissatisfaction with the quantity and the tone of advertisements on television, inveighing against hard-sell commercials that employed "The Phony Doctor, Confidential Charlie, Bellowing Bill[,] Drooling Dan" and other aggressive pitchmen to push products.[24] Audio Controls Corp., the manufacturer of the Blab-

---

following the release of reports by the Senate and House Committees on Interstate and Foreign Commerce that were highly critical CBS's and NBC's monopoly-like practices. See Boddy, *Fifties Television*, pp. 113-31.

[22] "Remote-Control Tuner" *Radio & Television News* vol. 48 (October 1952): 56-7; Harold Smith, "Latest Device for TV; Shush It From Chair" *Chicago Daily Tribune* (June 3, 1954): A6.

[23] "Quiets Television Clatter" *Wall Street Journal* (December 13, 1954): 9, quoted in Spigel, *TV By Design*, p. 304; C. Lester Walker, "How to Stop Objectionable TV Commercials" *Reader's Digest* vol. 63 (October 1953): 71-2.

[24] Lawrence Laurent, "If You Like Commercials, You Won't Need the Gadget" *Washington Post* (October 23, 1953): 53.

Off, reported that within weeks of first advertising its product it had sold 15,000 television silencers to consumers eager to quell the "'long, loud, vulgar, boring commercials that force their way into your living room.'"[25] Certainly there was no shortage of advertisements to be avoided; one newspaper critic wryly noted that the current quantity of television advertising ensured that "if you get [a Blab-Off] you are going to be busier operating it … than Liberace playing 'Kitten on the Keys.'"[26]

Devices like the TV Hush and Blab-Off captured the fancy of journalists, television critics, and, if Audio Controls Corp's sales figures are to be believed, audiences as well. Like the garbage disposal-equipped set envisioned by Avery, these and other new remote control technologies promised viewers a means of defending their homes and their peace of mind from invading advertisers. The battle against television advertising was waged on many fronts, and by shifting configurations of combatants. In certain situations, viewers were joined in their struggles against advertisers by networks eager to mount a power play over their sponsors. However, for reasons that should be obvious, the networks could never commit themselves fully to the anti-advertising cause. Television receiver manufacturers, on the other hand, did not face this same dilemma. Zenith in particular reached out to viewers in their ongoing battles with advertisers,

---

[25] Walker, "How to Stop Objectionable TV Commercials," p. 71; "Blab-Off" *Time* (April 13, 1953); *Los Angeles Times* (June 5, 1954): C3.
[26] Larry Wolters, "Where to Dial Today" *Chicago Tribune* (November 16, 1953): B8.

enlisting the audience in its own campaign against advertiser-supported television.

Pulling the Trigger: The Remote Control as Commercial Silencer

Amidst this anti-ad backlash, television set manufacturers, lead by Zenith, rebranded remote control devices as commercial silencers. More so than any other manufacturer, Zenith aggressively promoted the remote control as a technological solution to the problems of control and privacy posed by television commercials. As it did, it took up critiques of television commercials as invasive, fraudulent, loud, and annoying to advance a quite distinct argument about the medium's commercialism.

Zenith's founder and president Commander Eugene F. McDonald was an outspoken critic of television commercials, having lobbied against advertiser support of television broadcasting as early as 1931.[27] McDonald's legendary disdain for television commercials looms large over the history of the television remote control, inspiring one writer to describe the remote control as "an invention born not of necessity or even convenience" but "one man's detestation of advertising."[28] McDonald's objections to television advertising were shaped by the concerns he harbored about the advertiser-supported model of broadcasting,

---

[27] Robert V. Bellamy, "Constraints on a Broadcast Innovation: Zenith's Phonevision System, 1931-1972" *Journal of Communication* vol. 38 no. 4 (Autumn 1988): 8.
[28] Curt Wohleber, "Object Lessons: The Remote Control" *Invention & Technology* (Winter 2001): 6.

and his desire to see television break out from under the influence of the powerful radio networks that were driving its development.[29] Starting in the 1930s, McDonald and other Zenith executives lobbied broadcasters, electronics manufacturers, motion picture exhibitors, federal regulators, and the general public that television would be unable to operate under radio's financing model, in which advertisers shouldered the full cost of program production. Using data gleaned from Hollywood producers, McDonald estimated that it would cost approximately $200,000 to produce an hour of television programming, independent of station time, in comparison to the $30,000 hourly cost of the most expensive radio broadcasts.[30] The prohibitive cost of programming would leave broadcasters with little choice but to churn out cheap and poorly-produced programs, including, as he explained in 1944, "[f]ashion shows, demonstrations of products, how to cook round steak and make it taste like tenderloin."[31] McDonald's greatest concern was that television would become what many

---

[29] From an aesthetic standpoint, McDonald was not averse to commercials. Indeed, in a 1957 memo on the topic of Zenith's marketing of remote control, he confided in his fellow executives that "[commercials] are not the only source of irritation on TV -- Sunday night I tuned out much of the DuPont show but enjoyed the well-done commercials." Memo, E.F. McDonald to Robertson, Isgrig, et. al (September 30, 1957). 1957 Interoffice Memos (Box 1 of 2), Directors' Meeting Folder, Zenith Records.

[30] Robert V. Bellamy and James R. Walker, *Television and the Remote Control: Grazing on a Vast Wasteland* (New York: The Guilford Press, 1996), 19. Commander E.F. McDonald, "Television – An Economic Riddle" (corrected copy), 13. E.F. McDonald 1947 Phonevision Papers (Box 1 of 2), Television for 1944 Article Folder, Zenith Records.

[31] Commander E.F. McDonald, "Television's $64 Billion Question: Who's Going to Pay for the Programs?" *Retailing Home Furnishings* (December 25, 1944). E.F. McDonald 1947 Phonevision Papers (Box 1 of 2), Television for 1944 Article Folder, Zenith Records.

critics suggested radio already was: a banal, everyday medium drawing a primarily female audience with slapdash, serially-produced programming of a consumerist bent.

McDonald's proposal for averting this turn of events was an alternative financing model that would sustain the production or acquisition of original plays and musicals, Broadway shows, feature films, adult education courses, premiere sporting events, and other exceptional event broadcasts.[32] For McDonald, television's development – both as a consumer product and as an "important art" – hinged on its financial independence, and he was resolute in his determination that Zenith would not enter the market for television receivers until this model had been established.[33]

McDonald was far from alone in questioning the viability of advertiser-supported television in this period. The 1930s saw heated debates over whether the advertising strategies developed by the radio broadcasting industry would translate to television, with many commentators predicting that the intense demands television placed on its audiences' attention would rule out its use as an advertising medium.[34] For Zenith and McDonald, of greater concern than the

---

[32] McDonald's warning against the feminization of television is symptomatic of a much broader tendency to disparage "mass" culture as feminine. As Andreas Huyssen argues, historically high art has been coded as masculine, and mass culture as its feminine and degraded inverse. Huyssen *After The Great Divide: Modernism, Mass Culture, Postmodernism* (Bloomington, Indiana: Indiana University Press, 1986).
[33] Commander E.F. McDonald, "Television – An Economic Riddle" (corrected copy).
[34] William Boddy, *Fifties Television*, pp. 19-20.

audience's capacity to pay attention to television advertisements was the consequences the industry's adoption of an advertiser-supported model of television broadcasting would have on the television industry's balance of power. Most worrisome from McDonald's standpoint was the prospect that RCA would come to dominate the television industry as it already did radio. On the basis of its control of key patents and the extensive resources of the NBC network, an RCA subsidiary, RCA had dominated the U.S. broadcasting and receiver manufacturing industries since the 1920s. RCA's dominance came at the expense of receiver manufacturers like Zenith, which were required to license RCA's patents and pay steep royalties (as much as two per cent on every radio sold).[35] With television nearing commercialization, RCA found itself in a similarly advantageous position, with extensive television patent holdings that entitled it to collect 3.5 per cent of the wholesale price of each television receiver sold in the United States.[36] Eager to avoid a situation in which RCA would continue to extract such exorbitant fees from licensees, Zenith attempted to scuttle, or at least slow, the adoption of the system of television broadcasting being proposed

---

[35] The terms of this licensing agreement stipulated that licensees were forced to pay RCA for an entire package of patents, regardless of which ones the licensee actually required. Zenith filed suit against RCA in 1946, alleging "conspiracy to monopolize the industry through patent control." The suit was settled out of court in 1954, with RCA agreeing to pay Zenith some $10 million in damages, and granting Zenith rights to RCA and General Electric patents for black and white television technologies. "Zenith Beats RCA" *Time* (September 23, 1957).
[36] Boddy, *Fifties Television*, p. 31.

by RCA, joining CBS in opposing RCA's system for broadcasting monochrome television signals in the VHF band.[37]

Over the course of the 1930s and 1940s, McDonald and other Zenith executives approached prominent individuals in the motion picture, telephone, and consumer electronic industries, as well independent broadcasters unaffiliated with NBC and CBS, hoping to assemble support for an pay-TV alternative to RCA's preferred model of network-dominated, advertiser-supported television broadcasting.[38] Despite failing to attract partners, Zenith declared in its 1947 Annual Report that it had arrived at "a means of solving the economic problem of television."[39] Zenith's pay-TV system, called Phonevision, broadcast scrambled signals over the air, and used telephone wires to transmit a decoding

---

[37] Robert V. Bellamy, "Zenith's Phonevision: A Historical Case Study of the First Pay Television System" (Ph.D. Dissertation: University of Iowa, 1985), 42.

Also at issue for Zenith in its clashes with RCA was the fate of FM radio broadcasting. Zenith was an early supporter of FM, having founded the first FM station in the Midwest in 1940, and was a leading manufacturer of FM receivers prior to the outbreak of the war. RCA, on the other hand, viewed FM as a threat to its interests in AM broadcasting and receiver manufacturing and VHF television. RCA's proposed system of VHF television required the use of frequencies previously allocated to FM. In 1945, the FCC voted to shift the spectrum allocated to FM, rendering obsolete all receivers sold in the previous five years, and paving the way for VHF television broadcasting. See Boddy, *Fifties Television*, pp. 35-7.

[38] In 1936, McDonald first approached AT&T president Walter Gifford to inquire about the possibility of using AT&T's telephone wires to transmit television signals. Throughout the 1940s and 1950s, McDonald was in discussion with individuals in the motion picture industry, including Walt Disney and Cecil B. DeMille, as well as exhibitors including Loew's president Nicholas Schenck, about their potential participation in such a system. Reproductions of these letters are included in E.F. McDonald 1957 Interoffice Memos (Box 2 of 2), Zenith Records.

[39] Zenith 1947 Annual Report, quoted in Bellamy, "Zenith's Phonevision," p. 45.

key to the receivers of viewers who had paid for programming.[40] Following an initial public demonstration during the summer of 1947, Zenith conducted a commercial trial of Phonevision in the Chicago area in the winter of 1951. Phonevision's development stalled following this trial, as FCC investigations into proposed pay-TV systems effectively put a freeze on further public tests. Hamstrung by the FCC, and facing widespread opposition from a network-backed anti-pay-TV lobby, Zenith turned to the audience, lobbying consumers directly with a barrage of press releases, advertisements, and promotional pamphlets and films that touted the Phonevision system as a cure-all for the television industry's ills.

Zenith's PR push blamed television's reliance on sponsorship for many of the medium's commercial and artistic failures, pointing to the struggles of recently-launched small-market UHF stations and the dearth of "quality" network programming as evidence that advertiser support alone could not sustain the full number of stations allocated by the FCC.[41] "Today's television is bound by giant economic chains," explained a 1955 pamphlet distributed to consumers. "But by paying directly for the truly great entertainment and cultural events of our time, you can set television free, transforming it into a magic medium that has so much

---

[40] Later iterations of Phonevision were not dependent on the telephone system to transmit decoder keys, but instead used coin boxes or punch cards that could be purchased from retailers or vending machines to unlock set-top decoders. For a more thorough explanation of the technical properties of the various pay-TV solutions explored by Zenith in this period, see Bellamy, "Zenith's Phonevision."
[41] "Phonevision 1955: A Progress Report" (Pamphlet, Zenith Radio Corporation, 1955). E.F. McDonald 1955 Phonevision Papers N-Z (Box 1 of 2), Pamphlets Folder, Zenith Records.

more to offer than anyone can foresee."[42] In addition to delivering live sporting events, educational and instructional programming, Broadway shows, and recent feature films, the pamphlet explained, Phonevision would provide a long-term solution to the economic problems of the industry, enabling television to achieve its "magical" destiny as a technology, an industry, and an art form.

The remote control would prove instrumental to Zenith's Phonevision PR push. According to Dr. Robert Adler, one of the Zenith engineers credited with devising one of the earliest examples of wireless television remote controls, McDonald was adamant that "the annoying aspects of commercials … be emphasized. So what he was interested in was a gadget to turn the sound of the commercial off. … [E]mphasizing the annoying aspect of commercials was a way of demonstrating the appealingness of subscription TV."[43] Carrying out this strategy required Zenith to reengineer its remote controls and redefine their uses. McDonald challenged Zenith's engineering staff to devise a remote control that would mute the sound on its receivers, but that was not tethered to the set by wires.[44] In the mean time, the company went about re-branding its remote controls as commercial silencers. The first of Zenith's wireless remotes, and the

---

[42] "Phonevision: What It Means to Television and YOU!" (Pamphlet, Zenith Radio Corporation, 1955). E.F. McDonald 1955 Phonevision Papers N-Z (Box 1 of 2), Pamphlets Folder, Zenith Records.
[43] Dr. Robert Adler, Interview Transcript (August, 1986), 1. Remote Control File, Zenith Records.
[44] According to Adler, Lazy Bones' wired connection made it unpopular with housewives, who found the long cord connecting the remote unit to the set unsightly. Dr. Robert Adler, Interview Transcript (August, 1986), 1. Remote Control File, Zenith Records.

first wireless television remote control device marketed in this country, debuted in 1955 as a standard accessory included with nine of Zenith's sets. These new receivers, dubbed "Flash-Matic" by Zenith, had photosensitive cells in each of their four corners. Using a directional flashlight, viewers could activate these cells to turn the set on and off, change channels, and mute the volume. Though Zenith played up this remote control's "magical" properties in advertisements and sales materials, describing Flash-Matic as "a new miracle in television engineering," as a control signal, directional light had severe limitations.[45] Flash-Matic's photosensitive cells were easily triggered by ambient light, and viewers reportedly had difficulty keeping track of which sensor corresponded to which function.[46] In spite of these shortcomings, Flash-Matic remained popular with consumers, so much so that in September of 1955 Zenith was compelled to take out full page advertisements in Chicago area papers apologizing for its inability to meet the tremendous demand for Flash-Matic receivers.[47]

A central component of Zenith's efforts to rebrand the remote control as a commercial silencer was the directional flashlight used to control Flash-Matic receivers. Branded the Flash-Gun, this simple instrument was nothing more than a focused flashlight. Its design, however, framed the viewer's encounter with the television set as an adversarial or even violent confrontation. Molded in dark green plastic in the shape of a pistol, the Flash-Gun so resembled a handgun

---

[45] *Washington Post* (August 3, 1955): 44.
[46] Dr. Robert Adler, Interview Transcript (August, 1986), 1. Remote Control File, Zenith Records; Benjamin, "At the Touch of a Button," p. 18.
[47] *Chicago Tribune* (September 12, 1955): A3.

that it prompted one reporter to observe that Zenith had "come to the rescue of television viewers who would like to shoot some of the people they see on their screens."[48] Zenith marketing played up this resemblance, promising the audience fulfillment of their most violent fantasies towards television. The pistol-shaped Flash-Gun armed viewers against advertisers' sonic intrusions of the private spaces of their homes and their minds: advertisers' attempts to penetrate these private "spaces" with commercial noise or the psychological tactics of the depth approach would henceforth be met with a volley of directional light from the Flash-Gun remote. Alongside images of viewers taking aim at their televisions, Flash-Matic advertisements invited the ad-averse to "shoot off annoying commercials from across [the] room with [a] flash of magic light."[49] "If you don't like that comic … 'shoot' him," another ad explained. "That commercial too long? 'Shoot' the announcer."[50] In contrast to Lazy Bones, which Zenith had promoted as an aid to relaxation, the company marketed Flash-Matic tuning as an interactive technology, one that enabled viewers to assume a more active posture in their viewing, and even to control the images they saw on their screens, still without having to get up out of their chairs. This control was coercive, and carried out at the end of a gun: one Flash-Matic advertisement depicted a hand pointing a Flash-Gun at a screen on which appeared a sweating,

---

[48] "New Gun Shoots TV Programs," United Press wire report (June 27, 1955); Dr. Robert Adler, Interview Transcript (August, 1986), 1. Remote Control File, Zenith Records.
[49] *The Saturday Evening Post* (1955). Remote Control File, Zenith Records.
[50] *Los Angeles Times* (September 19, 1955): 8.

agitated pitchman holding up a sign reading “Sale” above his head. The graphic elements of this advertisement were composed in such a way that it remained unclear whether this pitchman was simply agitated by nature, or conversely terrified by the prospect of being gunned down by a vigilante viewer. In either case, by nature of the Flash-Gun’s design, the banal act of silencing a commercial was equated with firing off a few rounds at an invading enemy. With Flash-Matic’s pistol-shaped remote in hand, viewers were invited to imagine television viewing not as a passive form of spectatorship, but rather as a shootout between themselves and objectionable programs and advertisements.

In effect, Zenith’s technological “solution” to television’s economic problems was to “shoot” the television set. Throughout the 1950s, newspapers occasionally ran stories about disgruntled viewers moved to take out their frustrations with television by “murdering” their television sets. For instance, in 1952 the *Los Angeles Times* reported on an “irate” viewer so incensed by a commercial for a ukulele tuning device that he “smashed his television set and stormed out of his house to take up his gripe with the announcer.”[51] Later in the decade, the *New York Times* told of a Brooklyn dock worker “accused of trying to ‘turn down’ a television set with an automatic pistol.” Though successful at silencing the offending television, the man was nonetheless jailed for his vigilantism.[52] As Jeffrey Sconce has remarked, “shooting the TV set has become

---

[51] “TV Commercial Gets Viewer So Doggone Mad--” *Los Angeles Times* (September 21, 1952): B2.
[52] “Pistol Silences TV; Shot Laid to Docker” *New York Times* (May 6, 1957): 20.

over the years a familiar gesture in the nation's hyperbolic loathing of television as an intruding house guest."[53] With Flash-Matic, Zenith attempted to channel this loathing into purely *symbolic* acts of violence against the television apparatus itself. Shooting the television set was re-imagined as an act of self defense performed not by schizoids and crackpots, but by law-abiding citizens concerned about the effects of advertisers' psychological warfare tactics on their and their families' sanity.

Despite Zenith's intentions to use remote control as a means of calling attention to the annoyances and inconveniences inherent to the advertiser-supported system of commercial television, Flash-Matic's design and marketing may have in the long run undermined Zenith's efforts to translate the audience's negative feelings towards television commercials into genuine public support for an alternative to the current system of advertiser-supported broadcasting. Flash-Matic made the receiver, and not television's financing model, the scapegoat for the medium's problems, and suggested that television's problems could be solved by the individual viewer, simply by pulling the Flash-Gun's trigger. By inviting the viewer to take aim at the screen, Zenith presented Flash-Matic as an instantaneous push-button solution to the "problem" of advertiser-supported television. In practice, Flash-Matic did nothing to undermine the growing consensus surrounding the technologies, practices, and cultural forms of the advertiser-supported system of broadcasting in the VHF band. If anything, it

---

[53] Jeffrey Sconce, *Haunted Media: Electronic Presence from Telegraphy to Television* (Durham, NC: Duke University Press, 2001), 3.

suggested that the best the audience could hope for was to find a way to avoid or minimize this system's most objectionable aspects. As advertisements could easily be silenced or avoided by remote control, viewers had little incentive to support a genuine alternative to commercial television such as Phonevision. Ultimately, Flash-Matic delegated responsibility for "fixing" television's economic problems to viewers, presenting them with a choice between purchasing a new remote control receiver and continuing to endure the indignities perpetrated on them by advertisers. The only real solution, then, was to upgrade their sets to new remote control equipped models.

Flash-Matic tuning had a relatively brief product lifespan. Less than a year after its introduction, Zenith announced its intentions to replace Flash-Matic with a new wireless remote control system called Space Command. Meanwhile, the fate of Phonevision still hung in the balance, pending the outcome of the FCC's investigations into pay-TV. Though short-lived, and by no means successful at carrying out McDonald's objective of hastening the decline of advertiser-supported television, Flash-Matic nevertheless left behind a significant cultural legacy. With Flash-Matic Zenith established the remote control's identity as a commercial silencer, capitalizing on an increasingly widespread dissatisfaction with and suspicion of television advertising to position the remote control as a means of dealing with television's inundation with loud, fraudulent, and manipulative advertisements. Zenith's marketing of Flash-Matic presented the remote control as a weapon that could substantially alter the balance of power

between audiences and sponsors, and between audiences and broadcasters, for that matter. With a remote in hand, viewers no longer needed to resign themselves to being the passive victims of television's hidden persuaders, but instead could imagine themselves turning back this invading hoard by silencing their sets or by changing the channel.

Finally, and in retrospect perhaps most significantly, the Flash-Gun's design strongly implied that remote control would be wielded by men. Though a number of Flash-Matic advertisements depicted the Flash-Gun in women's hands, the pistol-shape design of the Flash-Matic made a concerted appeal to masculine tastes, and stoked in men fantasies of a violent insubordination against a feminized and feminizing consumer culture that attacked their privacy, diminished their agency, and compromised their authority within the home. Flash-Matic's associations with forms of violence both imagined and real invited comparisons between the television remote control and the remote control tools and weapons men had operated during wartime. This "masculine" coding suggested that tuning television receivers by remote control was a manly, or even heroic act, and encouraged male television viewers to feel emboldened by the push-button devices they held in their hands. But in promoting remote control devices in this manner, Zenith and the set manufacturers that followed its lead confronted a much more established set of cultural codes associated with the act of tuning in broadcasts. These codes were a holdover from the early days of amateur radio, when hobbyists had placed the highest premium on the ability to

tune radionic equipment. The tensions between these residual codes and the emergent ones promoted by the manufacturers of remote control technologies would provide the context in which the cultural meanings of the television remote control would coalesce over the following decades.

"Are Your TV Pictures as Good as They Ought to Be?"

In the popular discourses surrounding the new television technologies of the 1950s, television advertisers were not the only invading force that became the target of symbolic acts of violence. Also singled out for retribution were those meddlesome houseguests who could not resist the urge to fiddle with the set's fine tuning. Tex Avery's cartoon *T.V. of Tomorrow* proposed a novel technological fix to this TV problem. Amongst the many whimsical gadgets demonstrated in the film was a special tuning mechanism designed "for that never satisfied know-it-all, the guest who thinks he can tune your set better than you can." The film depicts one such know-it-all fiddling with the knobs on a television receiver as his host looks on disapprovingly. Before he has had an opportunity to do too much damage, a handgun emerges from a trap door beneath the screen and fires a bullet directly into his face, laying him out on the living room carpet. A similar scenario unfolds in a 1952 episode of the television series *I Love Lucy*. The episode begins with Lucy and Ricky Ricardo presenting their friends and landlords Fred and Ethel Mertz with a television set as an anniversary gift. However, their celebration is ruined when Ricky insists on tuning

in the Mertz's new set and blows out its picture tube. In retaliation, a furious Fred storms up to the Ricardo's apartment and smashes their set's screen, landing the two couples in court.[54]

For all their slapstick violence, both *T.V. of Tomorrow* and *I Love Lucy* pointedly acknowledge that access to the rows of knobs and dials arranged across the fronts of television receivers was fiercely guarded. In the period before remote controls and push button-tuning were standard features on most receivers, the question of who would tune the television set was not taken lightly, and was in fact at the heart of larger negotiations between husbands and wives, parents and children, and hosts and their guests over the control of television in the domestic setting.[55] As one of a number of new technologies introduced in the 1950s to streamline the process of tuning in television broadcasts, the remote control promised to eliminate the tense situations that could ensue when viewers overstepped their bounds and meddled with the tuner. But rather than diffusing these tensions, these new technologies merely refocused them around a different set of apparatuses and a new set of viewing protocols.

Little has been written from an historical perspective on the practices and technologies of television tuning. That said, well into the 1950s, tuning the television set remained a challenging task, so much so that it was the subject of countless how-to books, magazine articles, and more than a few popular culture texts. The demanding nature of tuning made pinning down a perfect picture a

---

[54] *I Love Lucy*, "The Courtroom," (CBS: August 8, 1952).
[55] See Spigel, *Make Room for TV*, pp. 36-72.

point of pride for male viewers, particularly those who fancied themselves handy or technologically-adept. It also made tuning a valued skill, one that granted those viewers who possessed it a considerable amount of control over others' access to and enjoyment of television broadcasts. In many middle-class households, men claimed the right to operate the family television's tuner as one of the prerogatives granted to them by their patriarchal authority. Depending on their proficiency at manipulating television's controls, the process of tuning their receivers could have contradictory consequences. Hence for Ricky Ricardo, the inability to tune in a clear picture became a source of embarrassment and humiliation, particularly in light of his typical *machismo*. But for more technologically-adept men, tuning proficiency could earn one the admiration of one's family, friends, or neighbors. A cartoon in a 1957 do-it-yourself TV repair manual aptly captures the status enjoyed by expert tuners: having diagnosed and repaired a problem with the family television's picture, a father is presented with a wreath that reads "Our Hero" by his adoring wife as his young son looks on with admiration.[56]

Men's claims on the television tuner were at least partially staked on historical precedent. In the early years of the twentieth century, the ability to competently tune radionic equipment was considered a desirable and even essential skill for a man to posses. Nowhere were these skills more valued than in the practice of distant listening, or DXing. DX enthusiasts scanned the

---

[56] John C. Sperry and Terry L. Jones, *The Do-It-Yourself TV Trouble Shooters Guide* (Lincoln, NE: John C. Sperry, 1957), 7.

airwaves in search of faraway stations, pushing their homemade equipment to pull in signals from around the country or across the globe. As Susan Douglas explains, the hobbyists who took part in this activity regarded DXing as "an active type of listening, which involved some technical expertise in adjusting the apparatus and bringing it to its maximum efficiency." The budding radio press closely covered the accomplishments of DXers, and endorsed DXing as a productive pastime for men and boys in articles that contrast the "manly challenges" DXers squared off against as they tinkered with their rigs and grappled with atmospheric conditions to the "passive" and "feminine" pleasures enjoyed by the regular listening audience as they took in commercial broadcasts on prefabricated radio receivers.[57] Though the popularity of the DX hobby waned with the ascendancy of network radio, the practice of distant listening survived into the 1950s with short-wave ham radio operators. Amongst the nation's hams, distance listening retained its associations with technological mastery and masculine conquest, and was frequently the subject of friendly – though heated – competitions to see who could reel in the most distant stations.[58]

Early television offered men a whole set of new opportunities to cultivate and display the "manly" competencies required to master radionic technologies. Between 1948 and 1952, the FCC temporarily put a freeze on licensing new broadcast stations, leaving many cities without television stations of their own.

---

[57] Susan J. Douglas, *Inventing American Broadcasting 1899-1922* (Baltimore: Johns Hopkins University Press, 1987), 307-8.
[58] See Kristen Haring, *Ham Radio's Technical Culture* (Cambridge, MA: MIT University Press, 2007).

The absence of a local broadcaster gave rise to vibrant DX communities such as that of Denver, Colorado, the largest US city to be left without a station by the freeze. A number of Denver radio enthusiasts turned the city's lack of a local TV transmitter as an opportunity to chase after distant signals, with some reporting having pulled in stations from as far away as both coasts on their high-performance rigs. Hobby magazines eagerly followed these developments, publishing copies of the photographs DXers snapped of the station identifications from the distant broadcasts they had managed to tune along with diagrams of the customized signal boosting circuits and elaborate motorized antennas they used to transform the weakest, most distant signals into clear pictures. According to press coverage of this hobby, TV DXers were a different species from run-of-the-mill viewers, and were more interested in tweaking their boosters and studying the conditions in the ionosphere than in the actual programs they tuned in on their jury-rigged sets. In *Radio & Television News*, a member of the Denver group wrote fondly of the camaraderie between himself and his fellow DXers, and described the TV DX hobby as a sociable one that involved not only male hobbyists, but also their XYLs – ham slang for wives. Most of all, commentators in the hobby press heaped praise upon the TV DXers for showing that television could do more than just pipe sitcoms and commercials into viewers' homes. In the hands of DXers, television became an active pastime compatible with middle-class conceptions of productive leisure.[59] By pushing their rigs to the limits,

---

[59] Stephen Gelber, *Hobbies: Leisure and the Culture of Work in America* (New

DXers contributed to the technological advancement of the medium, devising improvements for television receiver technologies that all viewers might benefit from in the future.[60]

The TV DX movement lost momentum in the aftermath of the FCC's issuance of the Sixth Report and Order in 1952, which officially ended the commission's freeze on station licensing. Within five years of the lifting of the freeze, the number of television stations on the air had more than quadrupled. The explosion of new stations reduced the number of communities without a local or nearby broadcaster, obviating the need for DXers to cast out in search of distant stations, and created conditions under which interference from local broadcasters limited hobbyists' ability to reel in signals from far-off places.[61] But even in places where signals were strong and abundant, television tuning still posed its own unique challenges for the home viewer.[62] Next to radio receivers,

---

York: Columbia University Press, 1999).

[60] J. A. Stanley, "No Television in Your City? Colorado Dealer Has Found Television DX-ing a Practical Way to Build a Market for TV Receivers" *Radio & Television News* vol. 46 (December 1951): 40-1; Stan Johnson, "DX Television" *Radio & Television News* vol. 48 (December 1952); Max Tharpe, "DX Television-Station Reception Verified with Screen Photos" *Popular Mechanics* vol. 102 (November 1954): 158-9. As Haring explains, the ham slang for wife, "XYL" translates to "former young lady." Haring, *Ham Radio's Technical Culture*, p. 128.

[61] At the freeze's conclusion, there were 107 stations currently broadcasting. By 1957, that number had grown to 471.

[62] Tuning was all the more difficult in rural or mountainous locales and in "fringe" areas situated near the limits of the transmitting station's range. The origins of cable television lie in the difficulty residents of fringe areas had tuning in television broadcasts. Beginning in 1948, enterprising individuals began to build tall antennas capable of receiving and amplifying faint television signals. These antennas were then connected via cabling to the sets of individuals who paid a monthly subscription fee. Community antenna television, or CATV, would over

the majority of which by the 1950s had been simplified to the point where they only had two controls remaining – one for tuning, the other for volume – early television receivers were complicated instruments, operated by as many as six different knobs or dials. Comparing the interfaces of the two media, *Radio & Television News* observed in 1955 that "[t]he process of receiving a picture … is far more complex" than that of tuning in a radio broadcast, as "the controls of the TV set for all the functions involved – synchronization, focus, contrast, centering, and picture size – must be adjusted to function as a team if the received picture is to be the clear, undistorted image the customer wants to see."[63] Even if viewers managed to master the coordination of television's complex array of controls, their hard work could easily be disrupted by interference from automobiles, airplanes, household appliances, or meteorological conditions.

Tuning was even more difficult with the expensive new color receivers introduced in 1954. Recounting his first night with a color set, *Los Angeles Times* TV columnist Walter Ames described the panic and then embarrassment he experienced when, before a room of friends and family members, he struggled for more than a half hour to tune in a color broadcast. "Frantically I read all the directions," Ames recounted. "Turn this switch, turn that one. Nothing worked. By this time my friends … were on my neck. After a half hour of black-and-white

---

the course of the next decades evolve into the system of distribution known as cable TV. For an overview of cable's origins, see Megan Mullen, *The Rise of Cable Programming in the United States: Revolution or Evolution?* (Austin, TX: University of Texas Press, 2003), 29-63.

[63] Esmond E. Johnson, "Controls for Your TV Receiver" *Radio & Television News* vol. 53 (May 1955): 40.

picture from the color set, I had a starving, disgruntled mob on my hands." Ames' description of his travails speaks to the degree to which tuning in television broadcasts placed the viewer's technical competencies on display for his family members and houseguests to admire or scrutinize. For the duration of the time he struggled to adjust the new color set, Ames' tuning, and not the broadcast on its screen, became the center of his guests' attention. Tuning was literally a performance, and Ames' failure to perform under these high-pressure conditions made his evening a thoroughly humiliating, and even emasculating experience. After giving up on the hope that he would ever bring in color pictures, Ames retired to his kitchen to see if he couldn't rustle up a snack that would appease his disappointed audience. Banished by his incompetence from the manly stage of the living room, the critic was left with no option but to resort to the feminine art of food preparation. Following this ignoble episode, Ames warned his readers – and in particular the Ricky Ricardos of the world, those cocksure men certain of their tuning abilities – that tuning "color is not a child's toy. It's real technical, men."[64]

Owing to the complexity of television tuning controls, tuning provided many opportunities for men to be humiliated before friends, family, and even total strangers. In a 1957 *Popular Science* article, for instance, TV repairman Art Margolis recounted a service call on which he encountered a newlywed couple quarrelling over a flickering set. While the wife in this couple had no trouble

---

[64] Walter Ames, "Color TV Tuning Is Expert's Job; Pal Says Bing Is Writing Find" *Los Angeles Times* (December 15, 1954): 32.

tuning the set, her flustered husband experienced nothing but frustration when trying to bring in their local channels. By replacing a spring within the set's tuning mechanism, Margolis managed to make it so that the husband could once again coax clear pictures out of his set. But if by this slight modification Margolis rectified the problem with the couple's receiver, in the process his repair compounded the damage done to the husband's self-confidence by his wife's superior tuning abilities.[65] The complexity of television receiver hardware posed a significant challenge to the technological authority claimed by male breadwinners. With the coming of television, the growing number men who took pride in handling the upkeep of their family's homes, automobiles, and small appliances suddenly found themselves reliant on the expertise of professionals like Margolis to maintain their sets.[66] Repairmen's specialized skills granted them a considerable degree of power over their customers, as well as over television itself: ultimately, Lisa Parks contends, it was the repairman, and not the male head of the household, who controlled the family television set. "In other words," she argues, "unless [the repairman] grounded the electrical wiring of the TV set, installed the antenna on the roof, and eliminated interference, there would have never been a picture" for the family to enjoy in the first place. Television's technical complexity thus threatened to disempower those male viewers who

---

[65] Art Margolis, "Why TV Tuners Get Temperamental" *Popular Science* vol. 170 (May 1957): 150.

[66] Stephen Gelber discusses the enormous popularity of the do-it-yourself movement during the postwar period "Do-It-Yourself: Constructing, Repairing, and Maintaining Domestic Masculinity" *American Quarterly* vol. 49 no. 1 (1997): 66-112.

claimed responsibility for tuning their sets, setting them up for embarrassing failures that could only be rectified with the intervention of other, more technically adroit – and presumably more manly – men.[67]

The challenges television hardware posed to the male breadwinner's technological authority amplified the perception that television undermined the parental and spousal authority of the middle class male. As Spigel writes, in the 1950s "[t]elevision was often shown to rob men of their powers and transform them into passive victims of a force they could not control." Pundits, social theorists, and television critics all in this period worried that television was displacing husbands and fathers from their rightful position at the head of their households, and pointed to images of the henpecked dads that populated popular sitcoms as evidence that with the arrival of television patriarchal culture and the masculine ideal had come under vicious assault.[68] That men could not control their sets' tuners only reinforced the notion that television was responsible for a crisis of masculinity that left men powerless within their own homes and over their own possessions and families.

In light of the challenges television posed to men's domestic authority, the tuner became a source and a symbol of men's insecurities about the new medium. Hobby publications preyed on these insecurities, and promised to impart their readers with the know-how required to tune in a perfect picture every

---

[67] Parks charts the sexually-charged interactions between housewives and service professionals in her article "Cracking Open the Set."
[68] Spigel, *Make Room for TV*, pp. 60-5.

time. How-to articles sent men to their roofs and into the bowels of their sets in search of loose connections or slack wires, and urged them to rearrange their home's furnishings to increase the set's distance from windows, heat sources, walls, direct lighting, and other sources of interference. But in addition to tutoring men in the finer points of Yagi antennas and white compression, hobby magazines also taught their readers to second guess their own capacity to judge the quality of their tuning. In language strikingly similar in tone to that of women's magazines' articles on household cleanliness, magazines like *Popular Science* and *Popular Mechanics* chided their readers for settling for substandard pictures. "Are your TV pictures as good as they ought to be?" asked *Popular Science* in 1950, making quite clear that in all likelihood they were not.[69] Hobby magazines made good reception out to be the male viewer's obligation, and gave readers reason to believe that what they considered crisp and clear was from an expert's perspective completely unacceptable. When it came to tuning television, the untrained eye was considered unreliable; only the TV test patterns that ran just prior to the commencement of the broadcast day were to be trusted. As one 1956 article informed viewers, "[t]he chances are that what you *think* is a good picture is not really as good as it could be. You may not be using all the controls. Or you may be using them improperly." Articles such as this one did more than just question their readers' powers of discrimination. In calling men out for their sub-par tuning efforts, the hobby press accused them of lacking a competency

---

[69] "Homemade Booster Improves TV Pictures" *Popular Science* vol. 156 (February 1950): 187-9.

hobbyists considered to be critical to their identities as men. The tuning tutorials that these publications offered were in this respect a thinly-veiled form of masculine self-help advice, presenting male readers with a set of practical steps they could take to take back control of their sets from repairmen, shrewish wives, and know-at-all children.

At a moment when many critics unfavorably compared the low-resolution television image to the high definition filmic image, the hobby press defined television's pleasures as primarily visual in nature, and suggested that only by learning to tune in a well-balanced, interference-free image would viewers get their money's worth from television. Television, *Popular Science* explained, could be "watchable" without being "pleasurable": anything less than a photo-quality image was bound to disappoint.[70] But for all their talk of how to lock in a "perfect image," from the perspective of the hobby press, there really was no such thing as "good enough" when it came to tuning in television broadcasts. "Even if you are happy with your set's performances, chances are you can make it do better,"

---

[70] John K. Frieborn, "You Can Tune in Better TV Pictures" *Popular Science* vol. 168 (January 1956): 203. Emphasis in original. Hobbyists' attentiveness to television's images lends credence to John Caldwell's contention that, contrary to the argument posed by many television critics and media theorists, television is not a visually-impoverished medium, but rather has an aesthetic all its own. Caldwell describes this aesthetic as one of *excess*, and suggests that the first decade of postwar television production was characterized by the medium's "grappling to control its own form." These struggles for control paralleled viewers' own struggles to control the images produced by their receivers: both were attempts "to come to grips with the new presentational burdens of television." *Televisuality: Style, Crisis, and Authority in American Television* (New Brunswick, NJ: Rutgers University Press, 1995): 46.

explained one hobby author.[71] The commodity-driven nature of the television manufacturing industry and hobby business ensured that there always remained room for improvement, as the arrival of each monthly issue brought with it new antenna designs, tuner circuits, or signal boosters for hobbyists to purchase, build, or install, and with them new standards of perfection to strive for (and fail to achieve). The hobby press set its readers on a never-ending cycle of purchasing, modification, testing, and self-doubt. Indeed, while hobbyists prided themselves on their do-it-yourself ethos, self-reliance, and ability to make and repair their own tuning gadgets, and distinguished their "active" interest in television's hardware with the "passive" and "superficial" interests of the consumerist mass audience, their involvement with television remained very much centered around consumption. In addition to purchasing the items advertised on television, hobbyists spent their savings on antenna mounts, r.f. amplifiers, and yard after yard of solder in pursuit of an unattainable standard of video perfection.

A cartoon in *Radio & Television News* lampooned this pursuit, showing a hobbyist on his hands and knees in front of his television set preparing to attach a fourth signal booster to a daisy chain of gadgets. Outside the living room window, a towering double antenna dwarfs the landscape. Despite the hobbyist's dogged determination, the image on the receiver's screen image is riddled with wavy interference. As the hobbyist sweats over his handiwork, his wife looks on,

---

[71] "How to Improve a Good TV Picture" *Popular Science* vol. 161 (November 1952): 180-1.

nonplussed, and asks him "do you think this could be a fringe area?"[72] Clear to everyone but the hobbyist himself is that no number of accessories will shrink the distance between his home and the transmitter. As this cartoon suggests, those men who went to these great lengths to improve their televisions' reception likely did so with a certain degree of self-consciousness. Still, with this cartoon, the final word was not to be had by the hobbyist's exacerbated wife, but rather by the advertisements for Concord Turret TV Boosters and Vela Fringe Area Antennas that appeared alongside it. Though the cartoon acknowledged to *Radio & Television News*' readership that the quest for video perfection was futile, with the placement of these advertisements the magazine held out to readers the hope that perfect pictures were only a gadget away.

As if readers of hobby magazines needed additional reminders of the inadequacy of their own tuning abilities, these nagging articles often appeared within pages of stories celebrating the accomplishments of intrepid television DXers who had resisted the temptations of passive viewing, choosing instead to hunt the ionosphere for signals from hundreds or even thousands of miles away. In both categories of articles, tuning skill was brandished as a badge of masculine potency: the bigger the antenna, the more potent the man. One how-to article took the form of a narrative of a competition between two men to see who could tune in the clearest pictures on a brand new set. The prize for the winner: a piece of the loser's wife's pie. The contest (and the article) ends with

[72] *Radio & Television News* (December 15, 1950): 162.

the victor enjoying his spoils, and the cuckolded loser transfixed on his television set, taking solace in the fact that he finally can see first hand what a "perfect picture" looks like.[73] Though such sexual innuendos were hardly the norm, the hobby press' coverage of viewers' tuning travails – and triumphs – naturalized and reinforced the historic associations between masculinity and the ability to expertly tune radionic equipment. Learning how to tune in clearer pictures was thus about more than making television more enjoyable; it also represented a crucial means of reasserting the value of core masculine competencies in the face of a medium so complex that it rendered insufficient the basic forms of technical know-how that had sustained middle class men in their domestic activities up until then. Even if television's technical complexity and the fickleness of television tuners more often than not set them up for failure or humiliation, and even if their wives were in fact more proficient tuners than they were, men continued to cling to their role as the household's designated television tuner. As they labored over their sets in pursuit of an ever-receding standard of video excellence, hobbyists worked furiously to recuperate forms of masculine technological authority and domestic authority that were deeply interconnected with one another.

---

[73] Frieborn, "You Can Tune in Better TV Pictures," pp. 203-244.

Automating Control

The perception that TV tuning was a difficult and stressful task provided hobby magazines with an endless source of material for articles and a steady stream of advertisements for products promising technological fixes to viewers' tuning problems. From the perspective of television receiver manufacturers, however, this perception posed a major dilemma. As William Boddy has shown, during the 1940s television industry insiders had publicly expressed concerns that women would find the process of tuning their receivers off-putting, and would be reluctant converts to television viewing. This prospect was particularly troublesome to the fledgling industry, which held the female audience to be the key to the medium's financial success.[74] Needless to say, this was hardly a fair assessment of women's technological competencies. Far from being the unsophisticated technophobes broadcasters and manufacturers assumed them to be, middle-class women were at the front line of the industrialization of the postwar private home, overseeing the introduction of many mechanized technologies into the domestic sphere. Still, as many historians have shown, stereotypes about women's attitudes towards technology would exert a powerful influence on the design and marketing of early television receivers.[75] To combat the perception that tuning was a chore best left to experts (or foolhardy husbands), television

---

[74] For example, Boddy quotes one industry executive's worries that because "'retuning a television set is far more difficult than a standard broadcast set … [w]omen may not like the mechanics of television tuning.'" Boddy, *New Media and Popular Imagination*, p. 50.

[75] See, for instance, Spigel, *Make Room for TV*; Boddy, *New Media and Popular Imagination*; Parks, "Cracking Open the Set."

manufacturers undertook systematic measures to downplay the technological complexity of their sets. In addition to enclosing receivers within cabinetry that camouflaged them as furniture and concealed their working parts, manufacturers devised advertising and sales strategies that subordinated the "nuts and bolts" aspects of television receivers, stressing instead their aesthetic qualities and ease-of-operation.[76]

Paradoxically, representations of the inner workings of television receivers played a key role in these coordinated strategies of concealment. In promoting the simplified façades of their receivers, manufacturers devised visual codes that exposed and fetishized the complexity of the nuts and bolts that their fine cabinetry hid from sight. For instance, one 1956 DuMont advertisement for its Decorator line of cabinets positioned the company's Picture Magnet Chassis as a work of art, placing a cutaway view of the interior of one of its receivers within an ornate frame, where it is contemplated by an elegant woman in an evening gown and mink stole. Along similar lines, in-store displays included full-sized replicas of tuning mechanisms, as was the case with one Zenith sales placard which showed off a sparkling plastic model of its Gold Video Guard Tuner's 104 gold-

---

[76] On television's status as living room furniture, see Mary Beth Haralovich, "Sit-coms and Suburbs: Positioning the 1950s Homemaker" in Lynn Spigel and Denise Mann (eds.) *Private Screenings: Television and the Female Consumer* (Minneapolis: University of Minnesota Press, 1992), 124. Boddy discusses the industry's refinement of its sales and marketing strategies in detail in *New Media and Popular Imagination*, pp. 53-5. See also Lisa Parks, "Cracking Open the Set."

filled contact points.[77] Advertisements and sales materials presented television's tuning mechanisms as aesthetic objects, in no way threatening to novices, and in no way out of place in well-appointed domestic interiors. In contrast to the hobby press, they suggested that the mechanism itself, and not just the pictures it produced, could be a source of pleasure and pride for its owners.[78]

During the early 1950s, receiver manufacturers positioned television tuners as both high-tech instruments and luxury items, and heavily promoted the precision, ease-of-use, and appearances of tuning mechanisms that automated many of the most troubling aspects of the act of tuning in television pictures. In years leading up to the 1955 launch of Zenith's Flash-Matic remote control, manufacturers made tuning innovations like Andrea's "Touchlight Tuning" (1950), DuMont's "Sensituner" (1951) Olympic's "Rocket TV Tuner" (1952), Motorola's "Sabre Jet" Tuning (1952), and Zenith's "Bulls-Eye Tuning" (1954) centerpieces of their advertising campaigns. Print advertisements and in-store displays used images of blindfolded women or even babies effortlessly tuning in crystal clear pictures to demonstrate these streamlined tuners' simplicity and superiority over the confusing arrays of knobs and dials found on "old-fashioned" receivers.[79] As *Popular Science* reported in 1956, "[f]ollowing the trend in cars, TVs are

---

[77] Sales display order form. Promo Material Prod. 1956-1958 folder, Zenith Records.
[78] Advertisement, 1956, John W. Hartman Center for Sales, Advertising & Marketing History, Item number TV 0541.
[79] "Now…Color TV so easy to tune you can do it blindfolded!" promised one Zenith retail placard. Sales placard order form. Promo Material Prod. 1956-1958 folder, Zenith Records.

becoming simpler and simpler to operate. You hardly have to touch anything besides the channel selector. Volume, brightness, contrast and clarity remain the same from station to station." *Popular Science* termed these innovations name "lazy man's controls." But whereas earlier in the decade Zenith had used similar language to promote its Lazy Bones remote control as the ultimate in luxury, in this context the distinction "lazy man" carried with it a distinctly pejorative connotation, as if men who purchased these sets were too lazy to perform an essential masculine duty.[80]

What effect, if any, these innovations and promotional strategies had on television's acceptance by female consumers cannot be determined. That said, at the time, some observers expressed their concerns about the impact the these streamlined receivers would have on the "manly" art of tuning. According to an article in *Radio & TV News*, by streamlining their receivers' tuning controls, manufacturers had de-skilled the process of tuning in TV broadcasts, and de-valued the technical competencies of those who considered themselves competent at it. "Apparently [television's] half-dozen or so knobs caused great terror among the viewing public, with only children of less than ten years of age courageous enough to undertake their adjustment," this article's author explained. "To alleviate this condition, the manufacturers launched a simplification campaign. About one knob a year disappeared until even the most timid of adults were no longer frightened." In this gloss on the evolution (or

---

[80] Hubert Luckett and Martin Mann, "Inside the 1957 TV Sets" *Popular Science* vol. 169 (December 1956): 78.

devolution) of television's interface, the primary target and beneficiary of this simplification campaign was identified as the same technophobic housewives manufacturers had earlier worried would be intimidated by television. However, even these concessions had failed to appease her, necessitating the elaborate camouflaging techniques undertaken by set manufacturers.[81] In their efforts to win over the female market, the article suggested, manufacturers had transformed television from a "respectable piece of electronic equipment" containing "a number of well marked controls" to a push-button appliance, no more complex than a washing machine, and easily operated by any member of

---

[81] Daniel P. Peters, "Complete TV Remote Control" *Radio & Television News* vol. 59 (April 1958): 57.

As Keir Keightley notes, "the term 'technology' is never deployed simply as an objective description of any and all electronic or mechanical apparatuses." For instance, he continues, "in everyday language, a washing machine tends to be called an appliance, seldom a technology." As this example suggests, the distinctions drawn between appliances and technologies are at once ideological and material in nature, taking into account such factors as the transparency of their operation, the location of their use, the identities of their users, and the value placed by society upon the tasks they carry out. Within this classificatory schema, appliances are devices that are easily operated by unskilled individuals in the performance of repetitive and menial tasks, typically within the confines of the private home. By contrast, the same schema holds technologies to be machines operated by skilled individuals. According to this binary, technologies carry out crucially important productive tasks; appliances, on the other hand, are *reproductive*, and used to perform tasks that society has traditionally undervalued. If, as Keightley writes, "[the] designation of something as a 'technology is equally an expression of its cultural significance," the inverse likewise holds true: to label a mechanical device as an appliance is to imply that it, its operator, and the task it carries out are all equally insignificant. In this fashion, the technology/appliance dyad reproduces and reinforces an ideology that devalues the labor performed by women, whether in the home or in the workplace. Keightley, "Low Television, High Fidelity: Taste and Gendering of Home Entertainment Technologies" *Journal of Broadcasting and Electronic Media* vol. 47 no. 2 (June 2003): 253.

the family.[82] But as terms like “lazy man’s controls” and “lazy man’s approach” make quite clear, women were not the only intended targets of this simplification campaign. The promise that new tuning technologies would streamline the process of tuning in television broadcasts was also an attempt on the behalf of manufacturers to entice men with the prospect of taking control of their receivers. Zenith made this promise most explicitly with the design of its Flash-Matic remote control. It was also made to a lesser degree (and in far less explicit terms) by all those innovations that transformed tuning from a complex and consuming process to a push-button operation.

Following this brief introduction, the rest of this article is taken up by a a step-by-step explanation of how to build one’s own television remote control at home. Do-it-yourself projects like this one offered hobbyists a means of combating the devaluation of their technical skills: even if the remote controls they built ultimately contributed to the overall simplification of television tuning, the act of fabricating one from scratch (rather than purchasing one) provided the hobbyist with an opportunity (or excuse) to tinker with the technology hidden beneath their receivers’ surface accoutrements and decorative trim. Indeed, the article’s author discloses that the only reason he bothered to build a remote control was to have an opportunity to show off his technical know-how to his family and friends. But for those lacking the skill or wherewithal to perform custom modifications on their own sets, remote controls and the other push-

[82] Peters, “Complete TV Remote Control,” p. 57.

button tuning gadgets of the 1950s seemed to pose yet another threat to men's already tenuous control over the family television receiver. During this time, the ubiquitous push button at once served as a symbol of progress and of the more alienating aspects of modern technology, suggesting the redundancy of human skill – and the human body, for that matter – in a technological society. Whether connected to an automobile, a blender, a factory tool, or a television tuner, the push button, Thomas Hine writes, "told its user that the machine in question was competent and complex, *able to do its job without any human intervention*." In comparison to the knobs and rheostat dials they replaced, push buttons were less intimate and less precise, and lent themselves to hands-off, as opposed to hands-on interactions with technology. As Hine suggests, "[i]t is the nature of push buttons that they are easy to press, but on the other side of that there is not much heroism in doing so. The push button is a symbol of power, but it makes the person who pushes it seem a bit dumb, and even useless."[83] Carried out by the push of a button, television tuning bore little resemblance to the heroic acts of technological mastery hobbyists, hams, and TV DXers had quite literally *performed* as they reeled in distant radio stations on their home-built rigs. With push buttons controls, it seemed that little remained for the viewer to adjust, save for the controls on his easy chair.

By eliminating the complex combinations of knobs and dials found on the first generation of television receivers, push-button tuning innovations, and the

---

[83] Thomas Hine, *Populuxe* (New York: Alfred A. Knopf, 1987), 124, 135. Emphasis added.

remote control in particular, appeared to strip men of their special purchase on the right to monopolize the operation of their families' television receivers. Push buttons standardize and *stereotype* the operations they perform, the result being that anyone, regardless of their skill level, may use them to perform a task with nearly identical results.[84] No one tunes better or worse with a push button receiver, as it is the receiver itself, and not the viewer, who ultimately is responsible for making the necessary adjustments. But instead of distributing control over the receiver to all members of the family, the remote control consolidated control over the set in the hands of a single individual. Remotes such as RCA's Wireless Wizard deactivated set-front controls, with the result that viewers could only change channels or adjust the volume by remote. In the case of receivers such as these, at a given moment only one viewer could be in command of the set. But even those remote controls that did not override manual control were just as effective at *symbolically* locating control over the set in the hands of he or she who held the remote. While anyone could still get up, walk across the room, and retune one of these sets, only one viewer at a time could control it in the modern, effortless, and virile fashion made possible by remote control technology. In this respect, the appearance of a remote control in a domestic setting provided a default answer to the question of who was to control the television receiver. This authority would reside with the remote control itself, and not with any one particular viewer; possession of the remote, and not any

---

[84] Jean Baudrillard, *The System of Objects*, trans. James Benedict (London: Verso, 2002), 113.

special facility in operating the television set's controls, would be the basis of the viewer's temporary power over the receiver, and, by extension, family viewing.

(Domestic) Space Command

If the remote control appeared to resolve the question of who would control television in the domestic setting, it left viewers to contemplate a second, related quandary: who would control the remote control? With few exceptions, advertisements and other pop culture texts strongly implied that the remote control would be, as David Morley has suggested, "the symbolic possession of the father."[85] The television remote control's phallic iconicity is so frequently the subject of contemporary popular culture that it tends to be taken for granted that men have always dominated the remote control, and used it to dominate those around them.[86] However, in the 1950s the television remote control's identity as a

---

[85] David Morley, *Television, Audiences, and Cultural Studies* (London: Routledge, 1992), 147.

[86] This is particularly the case with empirical studies of domestic remote control use, many of which set out from the hypothesis that gender is a primary determinant of the manner in which viewers employ television remote controls. See, for instance, Gary A. Copeland and Karla Schweitzer, "Domination of the Remote Control During Family Viewing" in James R. Walker and Robert V. Bellamy, Jr. (eds.) *The Remote Control in the New Age of Television* (Westport, CT: Praeger, 1993), 155-168; Walker and Bellamy, *Television and the Remote Control*, pp. 125-143 for overviews of a number of these studies. The problem with the majority of these studies is that rather than interrogating the historical circumstances in which the remote control was initially coded as a masculine instrument, they instead take for granted that these cultural codes reflect the homology between qualities on the one hand innate to the remote control and on the other essential to men's identities as men. At once technologically-determinist and essentialist, these studies are blind to the indeterminacy that surrounded the remote control's cultural meanings at the time of its introduction.

totem of masculine power was by no means assured. Securing the remote control's status as a "manly" instrument entailed exchanging a masculine ideal of hands-on mastery over technology for one rooted in a much more leisurely, hands-*off* approach to human-machine interaction. If the former was exemplified by the DXing, the latter was embodied most famously in the 1950s not by a hobby, but rather by a space: the domestic interior of the *Playboy* Penthouse Apartment.

In 1956, *Playboy* published a series of articles containing plans for a bachelor pad that incorporated the principles of modern, open-plan housing design alongside the latest in electronic gadgetry.[87] The *Playboy* Penthouse was equipped to the hilt with remote control technologies that operated everything from the television to the mood lighting to the ultrasonic dishwasher in the kitchen. These remote controls enabled the bachelor to control his home and its electronic accoutrements, and factored as props in the seductions the penthouse was designed to host. The central staging area for these imbricated acts of sexual and technological congress was the bachelor's bed, the headboard of which contained a bank of push buttons that remotely operated the apartment's

---

[87] "*Playboy*'s Penthouse Apartment," *Playboy* (September 1956); "*Playboy*'s Penthouse Apartment. Part II," *Playboy* (October 1956). Reprinted in Joel Sanders (ed.) *Stud: Architecture of Masculinity* (New York: Princeton Architectural Press, 1996), 55-67. As Bill Osgerby notes, following its presentation in *Playboy* the Penthouse served as a template for future renderings of masculine domestic spaces, with *Playboy* imitators like *Rogue* and *Escapade* publishing their own takes on the modern, push-button bachelor pad. See Osgerby, "The Bachelor Pad as Cultural Icon: Masculinity, Consumption and Interior Design in American Men's Magazines, 1930-1965" *Journal of Design History* vol. 18 no. 1 (2005): 106-9.

appliances and gadgets.[88] Much as the apartment itself did on a larger scale, the penthouse's bed enabled the bachelor to combine work and play, productivity and hedonism, and technological and sexual conquest. Without leaving bed – without even rising from a horizontal position, for that matter – the inhabitant of *Playboy*'s fantasy bachelor pad could close the drapes, crank up the hi-fi, silence his telephone, and set the dishwasher to clean the lipstick stains off of the wine glasses from the previous evening's dalliances. In the penthouse, Beatriz Preciado suggests, seduction was imagined as a highly technical yet outwardly effortless act in which the bachelor operated the apartment, its media technologies, and his lover via remote control.[89]

Playboy's Penthouse Apartment was by no means the only fantasy domicile of this period to employ push-button technologies to extend the powers of its male inhabitants in this way. Before *Playboy* unveiled the blueprints for its ultimate bachelor's dream house, popular magazines had already begun to publish stories on men who had outfitted nearly every inch of their homes with push-button remote-control technologies. Throughout the 1950s magazines like *Popular Mechanics* and *Popular Science* regularly published articles showcasing "push button paradises" such as the one built by Ted Blakeslee, a Los Angeles

---

[88] Beatriz Preciado describes the *Playboy* Penthouse's bed as a "technical platform, closer to a military observatory and control station than a common bed." See Preciado, "Pornotopia," p. 228. Steven Cohan likewise describes the technological array built into the Penthouse's bed in "So Functional for Its Purposes: Rock Hudson's Bachelor Apartment in *Pillow Talk*" in Joel Sanders (ed.) *Stud: Architecture of Masculinity* (New York: Princeton Architectural Press, 1996), 32.

[89] Preciado, "Pornotopia," pp. 228-9.

resident who over the course of ten years had painstakingly installed "175 push buttons, 101 relays, [and] 10,600 feet of wiring" throughout his family's house. Blakeslee's handiwork allowed his family members to remotely "select phonograph records, regulate the heat, adjust an awning, open and close the garage doors, water a plant, start the car, sprinkle the lawn and edge it, find out who's at the front door and let him in if they choose, telephone to the folks across the street without charge, and turn the lights on or off in the house," all with a minimum of effort.[90] The extensive household modifications the men in these articles performed on their homes transformed their interiors into complex technological systems of which men were the primary operators. This was driven home by the location of these homes' remote control panels. Like *Playboy*'s Penthouse, the control units of these push-button homes were typically located at the bedside of the male head of the household. From these command posts, men opened and shut windows and doors, adjusted air conditioners and furnaces, turned on record players and television sets, and turned off lights, operating the home itself as if it were a giant, inhabitable gadget, or, to borrow modernist architect Le Corbusier's famous dictum, a "machine for living."

---

[90] Andrew R. Boone, "Push-Button Paradise" *Popular Science* vol. 165 (November 1954): 147-8. See also "He Lives in a House of Fun," *Popular Mechanics* vol. 91 (May 1949): 172-4; A.R. Railton, "Push-Button Man, Jackson, Mich.," *Popular Mechanics* vol. 94 (1950): 84-7; "The House That's Run by Pushbuttons," *Popular Mechanics* vol. 86 (November 1946), 148-50; "How to Live in Luxury – If You're a Twentieth Century Electrician" *Washington Post* (September 13, 1953): H15.

Advertisements for Space Command, Zenith's next-generation commercial silencer, articulated these gendered fantasies of effortless control over domestic space with the equally fantastic imagery and rhetoric of the space race.[91] As had been the case with Flash-Matic, advertisements touted Space Command's ability to silence "loud, annoying commercials while [the] picture stays on screen."[92] Only, whereas Flash-Matic's design had framed the act of silencing commercials as an armed confrontation between viewer and set, with Space Command Zenith traded on the connotations of the space race in its bid to position the remote control as a "manly" instrument.[93] Having introduced Space Command only months after the launch of Sputnik, Zenith attempted to capitalize on Americans' fascination with all things outer space-related in promoting its new ultrasonic remote control.[94] Space Command abandoned Flash-Matic's pistol

---

[91] Space Command addressed Flash-Matic's susceptibility to ambient light by substituting high frequency sound for directional light as its control signal. Pushing a button on the Space Command produced an inaudible ultrasonic tone that was picked up by a microphone, changing the channel, muting the volume, or turning the set on and off. Initially, Zenith marketed two models of the new remote control: the Space Command 200, which turned the set on and off and muted the volume, and the more expensive Space Command 400, which also allowed viewers to change channels.

[92] Advertising one-sheet, June 1956. Sales and Promotional Materials file, "Z Line" folder, Zenith Records.

[93] Throughout the 1950s and 1960s, corporate America borrowed liberally from the language and imagery of the space race, promoting products ranging from automobiles to kitchen appliances to television receivers in terms that evoked the dynamism and adventurousness of space travel. See Karal Ann Marling, *As Seen On TV: The Visual Culture of Everyday Life in the 1950s* (Cambridge, MA: Harvard University Press, 1994), 132-4; Hine, *Populuxe*, pp. 131-2.

[94] In its communications with its dealer network, Zenith promised retailers that Space Command would enable them to "cash in on big public interest in outer space missiles," and in 1957 made available a special outer space retail kit for

shape in favor of a design comparable in both size and shape to a cigarette box. Despite its unassuming appearance, Zenith promoted Space Command as the apogee of space-age high tech, aligning the viewer's operation of the television receiver from a distance with militaristic fantasies of the remote control of rockets, missiles, and satellites. Other manufacturers soon followed suit, and by the end of the decade Admiral, Motorola, General Electric, and RCA had all introduced their own versions of the wireless remote control, some of which employed ultrasonic technologies identical to the ones found in Space Command receivers.[95] In addition to taking cues from Zenith's engineering breakthroughs, these manufacturers promoted their wireless remote controls using the same space-age rhetoric found in Space Command's ads. In one Admiral advertisement, for instance, a grotesque space alien demands to be "[taken] to your Admiral dealer" so that it can examine the "out-of-this-world" Son-R remote control, while Motorola named its remote control television the Golden Satellite.[96]

Even though they might prominently feature images of rockets, supersonic jets, and aliens, the primary theme of advertisements for remote control

---

children which included a cardboard space helmet, identification card, and a secret message decoder. Advertising one-sheet, December 1957. Sales and Promotional Materials file, "A Line" folder, Zenith, Records.

[95] Zenith would file suit against Admiral in 1958, charging that the company's Son-R remote control had infringed upon Zenith patents. The case was decided in Zenith's favor in 1960. "Zenith Patent Suit Cites Admiral Corp." *New York Times* (February 12, 1958): 45; "Zenith Wins in Suit Against Admiral Over 6 TV Patents" *Chicago Tribune* (September 1, 1960): K7.

[96] *Chicago Tribune* (September 14, 1958): B8; *New York Times* (October 15, 1959): 11.

accessories like Space Command and Son-R was not motion, but stasis.[97] Following more than a year of promoting Flash-Matic as an interactive technology, with the introduction of Space Command Zenith resurrected the "lazy man's approach" it had employed earlier in the decade in marketing its wired Lazy Bones remote control. McDonald explicitly referred to Space Command as "an eraser of irritation," and pressed Zenith's marketing department to devise a way of communicating to prospective buyers that by eliminating the hassle of tuning the television receiver its remote control "out-tranquilizes the millions of tranquilizers being sold by the drug stores today."[98] Zenith's Space Command advertisements translated McDonald's vision of the remote control as a technological tranquilizer into representations of an ideal configuration of domestic space from which toil and even movement itself had been banished by advanced technologies. Zenith conveyed this ideal graphically, including on many of its Space Command advertisements a simple diagram consisting of three images of a male television viewer going through the process of getting up to tune his set. In copy accompanying this diagram, Zenith promised that with Space Command there would be "[n]o more jumping up and down … No marching back and forth … No more stooping to adjust dials."[99] Instead, the viewer would transcend the space separating his chair and the television by

---

[97] Lynn Spigel, *Welcome to the Dreamhouse: Popular Media and Postwar Suburbia* (Durham: Duke University Press, 2001), p. 84.
[98] Memo, E.F. McDonald to Robertson, Isgrig, et. al (September 27, 1957). 1957 Interoffice Memos, Box 1 of 2, Directors' Meeting Folder, Zenith Records.
[99] *Los Angeles Times* (February 24, 1957), J4.

means of the invisible, inaudible ray which emanated from the Space Command controller.

The bodily immobility idealized by this diagram cut a stark contrast to the dynamic space-age imagery and rhetoric that frequently appeared alongside it. In establishing such contrasts, Zenith's remote control advertisements invoked the scientific breakthroughs that had made it possible to send artificial satellites into orbit around the earth to rationalize the male television viewer's sedentarism and hands-off engagement with television's tuning mechanisms. Laziness was presented in the context of these advertisements as the fruit of technological progress, and the legitimate prerogative of the working man. Zenith advertisements described the remote control as a form of artificial intelligence, explaining that a set equipped with Space Command "'*thinks*' and tunes itself for you! … You press a button on the Zenith Space Commander in your hand. The Zenith TV 'hears' the silent command and … <u>turns itself on or off</u>."[100] Packard Bell likewise claimed to have enlisted cutting-edge high technology in securing for the viewer the ultimate in relaxation, comparing its Computer Dial remote control to "advanced computer control panels," and claiming that its receivers' "modern space age tuning" guaranteed that viewers could "[s]ettle down for a good evening of TV viewing and stay settled down," with "[n]o jumping up and down to change stations … adjust sound or brightness … [or] switch on and

[100] *Chicago Tribune* (December 17, 1957): 15. Emphasis in original.

off."[101] Technology had freed men from the chore of tuning the set manually, sparing them the humiliations they might have once experienced and offering them new experiences of mastery based not on their precise manipulation of complex controls, but rather on their non-involvement and distance from the complexities of the earliest television receivers.

The domestic scenes portrayed by these ads artfully conflated indolence with potency, granting the recumbent viewers that populated them exceptional powers over their television sets, their homes, and even their family members. The men in these advertisements were far removed from the henpecked ninnies that populated the sociological tracts, pop punditry, and sitcom narratives of the day. In one 1957 Zenith advertisement, a recumbent male television viewer becomes a crowned regent, his easy chair a throne, and the Space Command remote control in his hand the scepter he wields as he effortlessly reigns over the space of the home as well as the far-off places depicted on his television screen. Alongside illustrations of this enthroned king appear a stretch limousine and a litter mounted on the back of an elephant, along with the assurance that "[t]he man who thinks he has everything … <u>just hasn't</u> until he has Zenith Space Command Remote Control Television."[102] Without making quite so explicit a connection between viewer and monarch, other advertisements and pop culture from this period similarly presented the remote control as a symbol of the male

---

[101] *Los Angeles Tribune* (August 14, 1959): 14; *Los Angeles Tribune* (January 17, 1958), B3.
[102] Advertising Proof. *Wall Street Journal* (December 16, 1957). 1957 Interoffice Memos, Box 1 of 2, Advertising Folder, Zenith Records. Emphasis in original.

head of household's status as "king of the castle" and a technical means of keeping television in check. "Having everything" in the context of these ads meant more than simply possessing the latest electronic gadget: it also entailed exercising total authority over the electronic technologies that filled middle class homes, as control over these technologies was tantamount to control over the house itself.

Whereas earlier in the decade Zenith had encouraged disgruntled viewers to imagine using its Flash-Matic remote control to take revenge on television's "long, annoying commercials," by the late 1950s the company's advertisements presented scenarios in which a disgruntled husband took revenge on his wife by silencing *her* via remote control. Certainly this was the case in the Burns and Allen advertisement described at the outset of this chapter. If television remote controls no longer quite resembled pistols, they nevertheless still could function as weapons in domestic conflicts between husbands and wives and parents and children. In 1959, the syndicated daily comic strip *Moon Mullins* presented a twist on this trope, in which a man uses a remote control television to drown out the sound of his wife's voice. In this cartoon, the aristocratic Lord and Lady Plushbottom are shown watching television with their new Blab-Off remote control. After silencing a chattering commercial, Lady Plushbottom proceeds to relate a story about a girlfriend's battles with her weight, much to her husband's annoyance. In the final panel, Lord Plushbottom decides to take action, and hits the mute button on the remote control, allowing the sound from the

advertisement to drown out his wife's blather. For Lord Plushbottom, listening to advertisements was preferable to listening to his wife prattle on about the trivial minutiae of her everyday life; the beauty of the remote was not that it enabled him to silence annoying ads, but that it allowed annoying ads to silence his wife.[103]

Like the imaginary bachelor inhabitant of *Playboy*'s Penthouse Apartment, both George and Plushbottom used their remote controls as interfaces through which to mediate and manage sexual difference. But the powers remote controls granted these men far exceeded those that television might have taken away from them. With a remote control in hand, the male television viewer was invited to imagine himself taming invading advertisers, talkative wives, and the television apparatus itself, all without getting up from his chair. In contrast to the dominant domestic ideology of the day, which stressed togetherness, companionate marriage, and men's involvement in childrearing, these popular culture texts outlined a masculinist domestic fantasy characterized by non-involvement in the affairs of the home, in which men used technology to streamline their duties as husbands and fathers.[104] The remote control thus became a template for an alternative form of masculine domesticity, and a means of enacting it in the context of everyday interactions between family members around the television set.

---

[103] *Chicago Tribune* (January 12, 1959): D1.
[104] For more on this domestic ideology, see Margaret Marsh, *Suburban Lives* (New Brunswick, NJ: Rutgers University Press, 1990); Spigel, *Make Room for TV*, pp. 11-35; Keightley, "Low Television, High Fidelity."

This masculinist fantasy of combining total effortless control over technology and the opposite sex with total physical comfort has proven remarkably enduring, surviving well beyond the decade of its emergence in the form of a familiar plot contrivance in popular narratives. For instance, in "Remote Control Man," a 1985 episode of the NBC anthology series *Amazing Stories*, a henpecked, browbeaten husband discovers that with his remote control he can transform his revolting wife and ungrateful children into characters from his favorite television programs.[105] Zapping his remote control turns his wife into a sexy soap opera star; another push of the button transforms her into the ideal 1950s housewife, *Leave It to Beaver*'s June Cleaver. Whereas his real wife and children paid no heed to his patriarchal authority, the Remote Control Man's television family wait on their father hand and foot. They are indeed the perfect family: the family that can be turned on and off at will, and silenced at the push of a button. Best of all, unlike his real family, who had ridiculed his voracious appetite for television, his television family respects their father's prerogative to sack out in front of the family television set at the end of a hard day at work. In this story the remote control is a means of turning back time to a nostalgically-remembered moment when men like June's husband, Ward Cleaver, inspired unquestioning obedience in their wives and children. That this moment never existed outside of Mayfield, the Cleaver's fictional hometown, does little to quell the protagonist's yearning for it. In "Remote Control Man," patriarchal authority

---

[105] *Amazing Stories*, "Remote Control Man" (NBC: December 8, 1985).

and control must be recuperated from television's past: the mythical 1950s of the television re-runs the program's protagonist enjoys with such great relish.

The 2006 film *Click* put an updated spin on what by that time was a well-established fantasy trope; in this film, a chronically overworked architect comes into possession of a magical remote that, in addition to operating his VCR and dimming the lights in his living room, transforms his life into a DVD, complete with chapters, menus, special features, and a commentary track voiced by James Earl Jones. Soon, *Click*'s protagonist is using this uncanny remote to fast-forward life's dull moments, zooming his way through traffic jams, tedious household chores, and his wife's nagging. A barking dog can be silenced with the push of the mute button; a picture-in-picture feature allows him to catch the highlights of a ballgame as he feigns interest in his wife's stories; a slow-motion button allows him to ogle the bouncing breasts of a female jogger. Before long, however, *Click* takes a twist that is characteristic of narratives of this category. The more the architect uses his remote control to manipulate those around him, the more it learns about him, until it begins to anticipate his commands. Suddenly, the decision to fast forward through a dull family dinner is no longer his own. At the first sign of an unpleasant argument or a bothersome chore, the remote automatically sets his life to jump ahead to the next professional milestone. As his rise through the corporate ranks accelerates, *Click*'s protagonist forfeits both his family and his health. By the time he is named CEO of his firm, he is morbidly obese, cancer-ridden, divorced, and estranged from his children. On his

deathbed, he comes to the realization that his only memories of life are of his many promotions. With his dying words, he begs his son to not follow in his footsteps, and to always place his family before work ... only to then wake up and realize that the entire preceding ninety minutes was nothing but a horrible dream.[106]

Though the technologies in *Click* are modern and digital, the dilemma the film's protagonist confronts are not unlike those faced by the men targeted by 1950s remote control advertisements. In both cases, awesome powers of control are predicated on the displacement of masculine agency from male subjects to technological surrogates. *Click*'s nightmare of artificial intelligence gone awry suggests that this trade-off is ultimately unbearable, and that no amount of convenience is worth the sacrifices the film's protagonist made by mediating his relationships with his family through the push-button interface of the remote control. For television viewers in the 1950s, however, this choice was nowhere near as clear cut. Facing advertisers' assaults on their peace of mind, and television's technological and textual assaults on their domestic authority, the remote control promised men a means of consolidating their power within the

---

[106] "Remote Control Man" ends in similar circumstances: after a few nights of enjoying the powers his new remote grants him, the protagonist gradually begins to lose control of its magical capabilities. Soon, his home is inundated with television personalities like diet guru Richard Simmons, talk-show sidekick Ed McMahon, and football pro Lyle Alzado, and fictional characters like KITT, the talking car from *Knight Rider* and the Incredible Hulk. The episode ends with the protagonist waking from a dream in front of a TV test pattern as his wife calls him in to bed. Grateful to have escaped sure death at the hands of the Hulk, he happily scurries to the bedroom, content to once again accept his former submissive role.

home, granted they were willing to give up some of their power over the television tuner.

“And Now, Ladies and Gentlemen…Television’s Final Triumph”

The new television technologies that flooded the market in the years following television’s postwar relaunch stimulated consumers’ curiosity about what the future held in store for television, and, in the process, heightened their awareness of the problems the medium was experiencing in the present. Overall, however, the years between 1949 and 1960 were a period of pronounced technological optimism, and it was widely believed that the continuation of television’s development as a technology and a medium was all but assured. In the face of this sanguinity, some of the medium’s more astute critics urged restraint. Amongst those skeptical of television’s ideology of progress was Tex Avery, whose 1953 film *T.V. of Tomorrow* has provided a connective thread running through the various sections of this chapter. It only seems fitting, then, to conclude this chapter by returning to Avery’s film one final time. In its closing scene, *T.V. of Tomorrow* presents what its bombastic narrator describes as “television’s final triumph”: a direct telecast from Mars. The camera zooms in on the dome of an observatory, where an audience has gathered to take in this miraculous technical feat on an interplanetary television receiver. Suddenly the set springs to life, revealing an image of the red planet. But just as Mars begins to come into focus, the image breaks up with interference, and is replaced on

screen by a clip of four cowboys on horseback firing their pistols to the tune of "The William Tell Overture" – the very same clip that appeared earlier in a pointed vignette about the unoriginality of many television programs. In this vignette, a frustrated viewer scans the dial in search of an agreeable program, only to find on each channel a variation on the same western shoot-'em-up. The scene ends with the now incensed viewer turning off the set, and then putting his fist through it.

As *T.V. of Tomorrow* suggests, there were many problems with television in this period that new technologies were ill-equipped to fix. Chief amongst these was a problem many critics considered of the utmost urgency: the formulaicness of a great deal of television's programming. Avery's cynicism notwithstanding, the coming decade would see many of television's critics throw their support behind new technologies of distribution that promised to address precisely this matter. During the 1960s, television reformers extolled the remedial powers of UHF, cable, satellites, video cassettes and discs, and still more far-fetched technologies. Much as McDonald had in the 1950s, reformers argued that by lessening television's reliance on commercial sponsorship and mass audiences, alternative distribution technologies would free program producers to create innovative works that did not have a place on advertiser-supported television. When 1960s reformers outlined the ways in which new technologies would repair television, they largely neglected television's first technology of TV repair, the remote control. Indeed, by this time it was more common to think of the remote

control as one of television's problems than as part of these problems' solutions. Sales of remote control receivers would actually decline in the 1960s, and it would take approximately thirty years from the introduction of Flash-Matic for the number of American television households with remote control receivers to break 50 per cent. But if the remote control did not maintain its identity as a technology of TV repair into the 1960s, many of the ideals that it had initially materialized continued to frame reformers' attitudes towards television's problems. The proponents of the new television technologies introduced in subsequent decades touted these devices as a means of realizing longstanding fantasies about controlling television and its programming, fantasies that, as this chapter has shown, are very much rooted in the crisis of masculinity that television was perceived to have incited during the period of initial uptake by American families. As had been the case with the remote control in the 1950s, these discourses of TV repair wove together the terms of public debates and private concerns, allowing negotiations over television's place in the home to merge with broader concerns about television's place in American society.

Two
Home Video:
Repairing "The TV Problem"

In the 1960s and 1970s, electronics companies and communications conglomerates in the U.S. and abroad devised and publicized more than a dozen proprietary home video systems. Few of these systems were commercialized, and only a handful of units were ever sold. Yet years before the 1975 introduction of the Betamax and VHS videocassette recorders (VCRs), the first commercially successful home video devices, an anticipative press reported that America was on the cusp of a video revolution that would transform television. "For almost 29 years, television has dominated American leisure time and dictated our entertainment," *Life* observed in 1970. "Now a new gadget … promises to rescue the medium and the viewer from the wilderness of mass programming. … Its impact on America's viewing habits and life-styles may be greater than anything since the advent of television itself. The potential for a revolution in quality is enormous."[1]

---

[1] Edward Kern, "A Good Revolution Goes on Sale," *Life* vol. 69 no. 16 (October 16, 1970): 47.

The idea that home video would transform or even "rescue" television shaped video's development as both a technology and a cultural form in the twenty or so years leading up to the introduction of the VCR. During this time, television became a source of national concern and even outrage on account of its failure to live up to the lofty expectations of its first generation of viewers and critics. In the late 1950s, journalists, educators, Marxist critics, and cold war liberals turned their attention – and, for a brief period, the attention of the nation – to what Walter Lippmann in 1959 had termed the "TV problem": a confluence of social, moral, aesthetic, and geopolitical dilemmas brought on by America's most popular and polarizing medium.[2] In a flurry of impassioned books, articles, and editorials, television's detractors accused it of stupefying audiences, warping the minds of children, eroding traditional values, reducing popular tastes to a lowest common denominator, and diminishing America's standing abroad. For many of these critics, including those journalists who covered television for large urban newspapers and widely-circulating weekly magazines, home video technologies presented an intriguing solution to the "TV problem." Video, they claimed, would elevate the nation's taste levels, deliver culture to the "masses," and stimulate the creation of original works that exploited television's unique aesthetic properties as a medium. Most important of all, video promised to shatter the national television networks' monopoly on the distribution of visual entertainment

[2] Walter Lippmann, "The TV Problem," *New York Herald Tribune* (October 27, 1959).

to the home, transforming the television set into a truly democratic medium – albeit one governed by qualified critics' conceptions of good taste.[3]

Cultural critics were by no means the only constituency to identify video as a technological solution for television's problems.[4] However, their commitment to the classical cannon and traditional hierarchies of cultural authority set them apart from the artists and activists who were amongst video's most vocal advocates in this period. During the 1960s and 1970s, members of a loosely-organized confederacy of "guerilla" video artists and activists argued in their

---

[3] Intellectuals' and critics' involvement in debates over popular culture stretches back to the nineteenth century. Landmark works in this vein include: Matthew Arnold, *Culture and Anarchy* (New York: Bibliobazaar, 2007); F.R. Leavis, *Mass Civilisation and Minority Culture* (London: Folcroft Press, 1933); Theodor Adorno, *The Culture Industry* (London: Routledge Classics, 2004); Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in Hannah Arendt (ed.) *Illuminations*, trans. Harry Zorn (London: Schocken, 1969); Dwight MacDonald, "A Theory of Mass Culture," in Bernard Rosenberg and David Manning White (eds.) *Mass Culture: The Popular Arts in America*, (New York: Free Press, 1957), 59-73; Clement Greenberg, "Avant-Garde and Kitsch," *Partisan Review* vol. vi. (1939): 34-49. For a cogent account of this contentious history, see Andrew Ross, *No Respect: Intellectuals and Popular Culture* (New York: Routledge, 1989).

[4] Prior accounts of the history of consumer video technologies reveal that numerous stakeholders – including engineers, electronics industry executives, marketers, salespeople, artists, countercultural icons, intellectuals, educators, journalists, cultural critics, and end-users – attempted to define video's meanings and uses during this period. See, for instance, Margaret Graham, *RCA and the Videodisc: The Business of Research* (New York: Cambridge University Press, 1986); Joshua Greenberg, *From Betamax to Blockbuster* (Phd. Diss, Cornell University, 2004); James Lardner, *Fast forward: Hollywood, the Japanese, and the onslaught of the VCR* (New York: W.W. Norton & Co., 1987); Marita Sturken, "Paradox in the Evolution of an Art Form: Great Expectations and the Making of a History," in *Illuminating Video: An Essential Guide to Video Art*, Doug Hall and Sally Jo Fifer (eds.) (New York: Aperture 1990); Deidre Boyle, *Subject to Change: Guerrilla Television Revisited* (New York: Oxford University Press, 1997).

manifestos and tapes that portable video recorders, or "Porta-paks," had the potential to transform American media and culture.[5] From 1965 onward, members of the counterculture used Porta-paks in their activism, artwork, and "cybernetic guerilla warfare" campaigns against "Media America."[6] The radical practices and ideologies of countercultural videomakers such as Nam June Paik, Frank Gillette, and Michael Shamberg, and video collectives such as Ant Farm, the Videofreex, and the Raindance Corporation have been the subject of extensive research and criticism.[7] This chapter sets out to broaden the scope of

---

[5] "Porta-pak" is a generic term for portable half-inch video equipment. Though Sony introduced the first video Porta-pak, recorders subsequently manufactured by Akai, JVC, Sanyo, Ampex, Shibaden, and others would be known by this name.

Marshal McLuhan acolyte and videomaker Paul Ryan coined the term "cybernetic guerilla warfare" to describe videomakers' in a 1971 article in the counterculture video journal *Radical Software.* Ryan, "Cybernetic Guerilla Warfare," *Radical Software* vol. 1 no. 3 (Spring 1971): 1. The term aptly captured the video counterculture's intentions of transforming American media by making irregular strikes, scattered across multiple fronts, aimed at introducing feedback into America's centralized, top-down media systems. According to Ryan, videomakers would engage their "enemies" where their hegemony was most vulnerable: on the streets, on college campuses, in lofts and art galleries, and on the land belonging to back-to-the-earth communes. Like true guerilla fighters, they would enlist "civilians" in their campaigns, placing Porta-paks in the hands of the people and encouraging them to feed back into the system that silenced them. See Ryan, *The Cybernetics of the Sacred* (New York: Anchor Books, 1974), 45.

[6] Michael Shamberg, *Guerilla Television* (New York: Holt, Rinehart, and Winston, 1971), 1.

[7] See, for instance, Sturken, "Paradox in the Evolution of An Art Form"; Martha Rossler, "Video: Shedding the Utopian Moment," in Doug Hall and Sally Jo Fifer (eds.) *Illuminating Video: An Essential Guide to Video Art* (New York: Aperture, 1991); Deidre Boyle, *Subject to Change: Guerrilla Television Revisited* (New York: Oxford University Press, 1997); David Joselit, *Feedback: Television Against Democracy* (Cambridge: MIT University Press, 2007); Patricia Mellencamp, *Indiscretions: Avant-Garde Film, Video & Feminism* (Bloomington,

historical scholarship on video in the 1960s and 1970s, calling attention to another vision of video technologies' cultural meanings and uses that circulated prior to their widespread adoption by consumers in the late 1970s. Like the video guerillas, television critics saw television's problems as both causes and symptoms of much more serious problems with American society. Critics broke with the video counterculture, however, over which technologies were best equipped to repair television – and the nation. The disparity between these constituencies' respective programs for media reform is indicative of the technological diversity of the many video formats promoted in the years prior to the introduction of the VCR. Though this diversity likely bewildered consumers, it gave critics and videomakers unrestricted license to speculate on video's potential to transform television.

"Irrigating the Wasteland": Video and the "TV Problem"

As is the case with many media technologies, the idea of home video antedated its practical implementation by decades. In 1951, RCA Chairman David Sarnoff called on his research staff to develop a device that would make it possible to "reproduce television programs from tape at any time, in the home or elsewhere, in much the same way as the present phonograph reproduces the music you

---

IN: Indiana University Press, 1990); Parry D. Teasdale, *Videofreex: America's First Pirate TV Station* (Hensonville, NY: Black Dome Press, 1999); William Boddy, "Alternative Television in the United States," *Screen* vol. 31 no.1 (Spring 1990): 91-101; Aniko Bodroghkozy, *Groove Tube: Sixties Television and the Youth Rebellion* (Durham, NC: Duke University Press, 2001), 21-60.

want when you want it."[8] Twelve years would pass before the state of the art in magnetic recording had caught up with Sarnoff's vision. In 1963, Ampex formally introduced the first home video recorder marketed in the United States at hi-fi industry trade shows. The 9-foot-long, 900-pound Ampex Signature V combined a 21-inch color television, AM-FM radio, stereo amplifier, automatic turntable, audio tape recorder, stereo speakers, black-and-white video tape recorder, and video camera in an elegant, leather-trimmed cabinet of oiled walnut. That December, retailer Neiman-Marcus featured the Signature V as one of the extravagant gifts that are a trademark of its annual Christmas Book. In the accompanying photo spread, photographs of the Signature V's state-of-the-art hardware were interspersed with shots of a suave playboy entertaining a glamorous female model in a stylishly decorated bachelor pad. Situated around the Signature V's hulking cabinet were pieces of Asian statuary, Corinthian columns, and a tasteful floral arrangement. At a retail price of $30,000 (which included professional installation and a plaque bearing its owner's name), the Signature V was more an extravagant glimpse into video's future than a viable consumer product. Nonetheless, its appearance in the Christmas Book aligned video with legitimate forms of masculine desire, sophisticated tastes, and technical know-how.[9] Journalists marveled over the Signature V's heft and price

---

[8] David Sarnoff, September 27, 1951. David Sarnoff Publicity Collection, Box 18, Folder 34, David Sarnoff Library, Princeton N.J.. (Hereafter referred to as Sarnoff Library Records).

[9] The iconography and scenario of Neiman-Marcus' Signature V photo spread immediately calls to mind the high-tech domestic interior of *Playboy*'s Penthouse

tag. Yet, as *Saturday Review* music critic Irving Kolodin pointed out, "[s]ome might say almost any price would be reasonable to settle the domestic problem of Who sees What when there are two programs on T.V."[10]

Though the manufacturers of subsequent home video systems significantly refined the Signature V's magnetic tape technology, many followed in Ampex's footsteps and marketed their video systems as the ultimate plaything for the discerning connoisseur.[11] Video's incipient associations with masculine

---

Apartment (see chapter 1). According to Greenberg, *Playboy* publisher Hugh Hefner was actually one of the first videophiles. Greenberg writes, "Hefner … outfitted both Playboy mansions with Ampex open-reel video recorders in the early 1970s and created what might have been the first television time-shifting system. When he received the weekly TV Guide, Hefner would mark all the shows that he might want to see, and a full-time employee would have the responsibility of individually taping each program on the reel-to-reel Ampex machines. Whenever he wanted to watch a program, any time of day or night, Hefner would call the video control room from one of the bedrooms and request that a western, or a classic film noir, or whatever else he might be in the mood for be routed to his television set." Greenberg, *From Betamax to Blockbuster*, p. 28.

[10] Irving Kolodin, quoted in "Signature V Becomes THE Christmas Gift for 1964," *Ampex Monitor* vol. 8 no. 12 (December 1963), 6-7. Stanford University Special Collections, Ampex Corporation Records (M1230), Series 2, Box 47. (Hereafter Referred to Ampex Collection).

[11] The linkage of aesthetic discrimination and class hierarchies to mass produced products in advertising materials has a long history. As Roland Marchand points out, by the 1920s depictions of the extravagant lifestyles of "an authentic, certified social aristocracy" were a fixture of advertisements for a wide variety of everyday goods. Marchand, *Advertising the American Dream: Making Way for Modernity, 1920-1940* (Berkeley: University of California Press, 1985), 194; see also Michael Kammen, *American Culture, American Tastes: Social Change and the Twentieth Century* (New York: Basic Books, 2000). In advertisements for consumer electronics devices, representations of class strata were commonly refracted through gendered discourses. See Keir Keightley, "'Turn It Down!' She Shrieked: Gender, Domestic Space, and High Fidelity," *Popular Music* vol. 15 (1996): 149-177; Lynn Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992); Cecelia Tichi, *Electronic Hearth: Creating an American Television Culture* (New York:

connoisseurship were cemented by music and arts critics, a number of whom likened devices like the Signature V to hi-fi audio equipment. As Keir Keightley has shown, during this period hi-fi was associated with a highbrow listening audience consisting primarily of technologically-adept men.[12] Press critics and electronics manufacturers regarded this population as the most obvious market for home video. Nearly a year after Ampex introduced the Signature V, *New York Times* music critic Howard Klein dedicated one of his columns to a meditation on video's likely impact on the hi-fi hobby. In it, Klein wrote of a time in the future when hi-fi enthusiasts would capture "rare performances of never to be recorded works like Busoni's 'Doktor Faust'" on videotape. Klein's appraisal of home video's prospects was conditional: before connoisseurs would have anything to record on their expensive video decks, the quality of television programming would first have to improve appreciably. In a nod towards Federal Communications Commission (FCC) chairman Newton Minow's famous 1961 indictment of the U.S. broadcasting industry, Klein concluded his column by predicting that "provided TV's cultural wasteland is irrigated properly, the home pirate will be able to hear his 'Ring [des Nibelungen]'and see it too – in color."[13]

Oxford University Press, 1992); and Kristen Haring, "The 'Freer Men' of Ham Radio," *Technology & Culture* vol. 44 (2003): 734-761.

[12] Keir Keightley, "Low Television, High Fidelity: Taste and Gendering of Home Entertainment Technologies" *Journal of Broadcasting and Electronic Media* vol. 47 no. 2 (June 2003): 236-259.

[13] Howard Klein, "Airchecks – Piracy of the High C's," *New York Times* (November 29, 1964). Later in his career Klein would go on to become a director of the Rockefeller Foundation and one of the most active patrons of video art. See Marita Sturken, "Private Money and Personal Influence: Howard Klein and

Klein's contention that the market for home video would hinge on or play a part in the transformation of the barren landscape of television's vast "wasteland" is symptomatic of cultural critics tendency to frame discussions of the new television technologies of the 1960s within the context of much larger debates over television and the politics of the popular. In the years immediately leading up to Ampex's 1963 introduction of the Signature V, the U.S. broadcasting industry weathered a series of scandals that impugned broadcasters, sponsors, ratings companies, and the industry's federal overseers. The most damaging of these incidents, the so-called "quiz show scandals," galvanized television critics who were already at the time increasingly alarmed at the state of the medium. In 1959, New York prosecutors opened investigations into allegations that sponsors had fixed quiz shows including *Twenty-One* (NBC, 1956-58), *Dotto* (CBS, 1958), and *The $64,000 Question* (CBS, 1955-58). The investigations shortly migrated to Capital Hill, where network executives, sponsors, and quiz champions were called to testify. Meanwhile, also in 1959, Congress commissioned a House subcommittee to investigate whether popular disc jockeys had accepted gifts of cash, drugs, and merchandise to promote records on the air. The "payola" and quiz show scandals were soon followed by FCC Chairman John C. Doerfer's 1960 resignation amidst charges of fiscal impropriety and graft. Finally, in 1963, the House Commerce Committee convened hearings that challenged the accuracy and reliability of television's commercial ratings system and questioned

---

the Rockefeller Foundation's Funding of the Media Arts," *Afterimage* vol. 14 no. 6 (January 1987): 8-14.

the influence that ratings companies exerted over the television industry and its programming.[14]

With the revelation that many quiz shows had been rigged, influential television critics including the *New York Times*' Jack Gould, the *New York Herald-Tribune*'s John Crosby, *Variety*'s George Rosen, and Terrence O'Flaherty of the *San Francisco Chronicle*, skewered the U.S. networks and their sponsors, charging them with both moral and creative bankruptcy. Critical discontent with network programming initially crested in the years between 1957 and 1960, when the networks replaced many of the acclaimed live, New York-originating "Golden Age" dramas with more profitable quiz shows and Hollywood-produced telefilms.[15] Critics who only years earlier had celebrated the achievements of

---

[14] See Christopher H. Sterling and John M. Kittross, *Stay Tuned: A History of American Broadcasting* (Mahwah, NJ: Lawwrence Ehrlbaum Associates, 2002), 392-393, 457.

[15] The term the "golden age of live television programming" is a product of critics' nostalgia for the prestigious New York-based anthology dramas aired by the U.S. networks during the 1940s and 1950s. Programs typically included in this category include the *Kraft Television Theater* (ABC 1947-58), *Playhouse 90* (CBS, 1956-61), and *Philco Television Playhouse* (NBC 1948-55), which on May 24, 1953 presented Paddy Chayevsky's *Marty*. Each week, these programs presented live performances of one-off teleplays, many based on original screenplays by up-and-coming young writers like Chayevsky, Rod Serling, and Gore Vidal. Press television critics, a number of whom of whom had formerly been theater reviewers, evaluated these and other so-called "golden age" dramas against the aesthetic criteria of the legitimate stage, praising the anthology series for their intimacy, realism, originality, and, most of all, immediacy. See William Boddy, *Fifties Television: The Industry and Its Critics* (Urbana, IL: University of Illinois Press, 1990), 80-92. James L. Baughman, "The National Purpose and the Newest Medium: Liberal Critics of Television, 1958-60," *Mid-America* vol. 64 (1982): 41-55. For more on the networks' growing reliance on Hollywood's production capabilities, see Christopher Anderson,

such television auteurs as Rod Serling, Gore Vidal, and Paddy Chayevsky, viciously attacked the networks, equating the creative impoverishment of the quiz shows and Hollywood telefilms with the overall moral turpitude of the industry.[16]

This sharp-toothed criticism would greatly influence the regulatory agenda of the FCC during these years of transition and crisis.[17] In 1961, Chairman Newton Minow addressed the annual meeting of the National Association of Broadcasters and, in his speech's most memorable passage, described the airwaves as a "vast wasteland" of mindless sitcoms, formulaic Westerns, violent gangster shootouts, and offensive commercials.[18] Minow's speech instantly became a cultural touchstone, and inspired a new wave of criticism and activism.[19] In popular periodicals, government reports, editorials, academic

---

Hollywood TV: The Studio System in the Fifties (Austin, TX: University of Texas Press, 1994).

[16] Kent Anderson, *Television Fraud: The History and Implications of the Quiz Show Scandals*, (Westport, CT: Greenwood Press, 1978), 105; Laurie Ouellette, *Viewers Like You? How Public TV Failed the People* (New York: Columbia University Press, 2002), 26-35. See, for example, Jack Gould, "Quiz for TV: How Much Fakery?" *New York Times Magazine* (October 25, 1959): 13, 73; Jack Gould, "A Plague on TV's House," *New York Times* (October 12, 1959).

[17] Laurie Ouellette, *Viewers Like You?*, p. 31.

[18] Minow framed the matter of television's declining aesthetic standards as a central problem facing the nation at the dawn of the Kennedy administration. With Communist tyranny on the rise in Cuba, Africa, and Southeast Asia, broadcasters would be called on to meet their responsibilities as trustees of the public airwaves. "[I]n a time of peril and opportunity," Minow instructed his audience, "the old complacent, unbalanced fare of action-adventure and situation comedies is simply not good enough." Newton Minow, Address to the 39th Annual Convention of the National Association of Broadcasters, Washington, DC (May 9, 1961).

[19] In 1962 alone, at least six books investigating the TV industry and its effects on American society were in print, including *TV in America: The Morality of Hard Cash*, *Coast-to-Coast*, *Face-to-Face*, *The Television Writer*, *The Great Time-*

treatises, and book-length studies, critics and pundits offered critiques of television that ranged from predictions that television's disregard for traditional taste hierarchies was driving the nation towards Soviet-style socialism to accusations that the medium had produced a population, flabby in mind, body, and morals that lacked the resolve to wage war on communism.[20] Viewers as well were outspoken about their concerns about television, and took an increasingly active role in lobbying for reform. During this period, private citizens, religious organizations (including the United Church of Christ), community groups (including the Parent Teacher Association [PTA]), women's groups (including Action for Children's Television [ACT]) civil rights groups (including the National Association for the Advancement of Colored People [NAACP] and Black Efforts for Soul in Television [BEST]), and a host of other activist groups intervened in station licensing hearings, pressured the FCC to uphold its so-called "fairness doctrine," fought for a ban on tobacco advertising, and lobbied for an increase in educational children's programming.[21] As FCC commissioner Nicholas Johnson

---

Killer, and *The Television Dilemma*. See Mary Ann Watson, *The Expanding Vista: American Television in the Kennedy Years* (Durham: Duke University Press, 1994), 27.

[20] Michael Curtin, *Redeeming the Wasteland: Television Documentary and Cold War Politics* (New Brunswick, NJ: Rutgers University Press, 1995), 27.

[21] For historical accounts of some of these campaigns, see Steven Classen, *Watching Jim Crow: The Struggles Over Mississippi TV, 1955-1969* (Durham, NC: Duke University Press, 2004) and Heather Hendershot, *Saturday Morning Censors: Television Regulation Before the V-Chip* (Durham, NC: Duke University Press, 1998).

would later observe, after years of being talked *at* by broadcasters and sponsors, in the 1960s viewers took the initiative to talk *back* to their television sets.[22]

Emboldened by the outpouring of elite criticism and citizen activism, prominent liberal commentators like Lippmann and Arthur Schlesinger argued that only direct government intervention, including strict quotas for cultural and educational programs, could "rescue television from the downward spiral of competitive debasement.[23] Others predicted that the market would work out television's problems itself. Consonant with the market-friendly stance of the Kennedy administration's technocrats, Minow suggested new or underexploited technologies – including ultra-high frequency (UHF) band television, subscription- or pay-TV, community antenna television (CATV), and communications satellites – would increase competition for viewers and, by extension, improve program quality. The Carnegie Commission on Educational Television spoke for many of television's critics when it suggested in its 1967 report *Public Television: A Program for Action* that "technology, when used by wise management and applied to the entire problem, can make tremendous improvements in both commercial and noncommercial television. In addition, technology can aid the program creators and have a real influence in improving program content."[24] But regardless of their politics or the particular remedies they endorsed, a growing

---

[22] Nicholas Johnson, *How to Talk Back to Your Television Set* (Boston: Little, Brown and Company, 1970), 6.
[23] Norman Jacobs, *Culture for the Millions?* (Princeton: Beacon Press, 1964), 148-150.
[24] Carnegie Commission on Educational Television (eds.), *Public Television: A Program for Action* (New York: Bantam, 1967), 193.

number of television's critics shared Jack Gould's conviction that the quiz show scandals could prove "a blessing in disguise" for reformers.[25] The combination of an enlarged audience for "serious" television analysis, government and corporate support for noncommercial alternatives to the networks, and the television industry's temporary "hypersensitivity to criticism" convinced cultural intermediaries they had a mandate to rehabilitate television.[26] Whether market forces, industry self-regulation, a public noncommercial broadcaster, a charismatic federal regulator, or a new consumer technology would be the motor of this reform remained to be seen. It was in this climate that some cultural intermediaries identified home video as amongst the most promising options for rescuing television from its "debasement" at the hands of the networks and their sponsors.

The critics who would later nominate video for this task operated under the premise that it was the obligation of men and women of superior taste and refinement to lead viewers out of TV's "wasteland." With this conviction, critics and other cultural elites contested broadcasters' claims that television constituted a form of "cultural democracy" in which the ratings functioned a sort of popular vote to ensure that the public received the programming it desired. For instance, in his contribution to the 1960 Report of the President's Commission on National Goals, critic, philanthropist, and future Kennedy administration Special

---

[25] Jack Gould, "Quiz for TV: how much fakery?" *New York Times Magazine* (October 25, 1959): 13.
[26] Watson, *The Expanding Vista*, p. 28.

Consultant on the Arts August Heckscher argued that television's mass market populism was not democratic, but in fact more akin to Soviet-style socialism, in so far as it engendered a uniformity of consumption that cut across class distinctions.[27] For Heckscher, as well as for many of his contemporaries, a truly "viable" cultural democracy would be one that respected "diversity" and "pluralism" – keywords commonly deployed in the context of midcentury debates about popular culture as synonyms for highbrow tastes and social stratification, respectively – as well as the authority of those possessed of "a vigorous and independent critical spirit." Required was "a small group of men and women no less dedicated [to the arts] than the artists themselves," an independent elite who would defend classical Arnoldian standards of aesthetic excellence in the face of the anarchy of television's cultural democracy.[28]

As Laurie Ouellette had documented, this very conviction was a guiding force in many of the Great Society era's liberal reforms, including the push to found a noncommercial alternative to network broadcasting. The Carnegie Commission on Educational Television, a fifteen member commission comprised of prestigious academics, philanthropists, and cultural elites, exemplified this "liberal corporate approach" to social policy reform.[29] In its practical application at

---

[27] Ouellette, *Viewers Like You*, p. 28.
[28] August Heckscher, "The Quality of American Culture," in U.S. President's Commission on National Goals (eds.) *Goals for Americans* (New York: Prentice-Hall, 1960), 136.
[29] Richard Flacks, "Is the Great Society Just a Barbecue?" in *New Republic* (ed.) *Thoughts of the Young Radicals* (New York: Pittman, 1966), 48-56. Quoted in Ouellette, *Viewers Like You?*, p.51.

PBS, this approach produced a publicly-subsidized broadcaster whose programming reflected the tastes of the bourgeois, educated, and predominantly white minority that had overseen its inception. When applied to home video, the same liberal corporate approach engendered a vision of video as a tool that a cultural elite would use to edify itself and enlighten an uncultured mass. Within this ideological framework, television reform would be a strictly top-down affair, and would proceed only when the audience had been conditioned to follow the guidance of cultural experts qualified to evaluate programming options on their behalf.

“Do-It-Yourself Reruns”

Many of the journalists who covered the “TV problem” also reported on the development of home video technologies. Their first impressions of these devices were refracted through their cultural biases and concerns about the current state of television. In their writings on the new video technologies, critics outlined specific criteria for how video should be marketed, programmed, and, most importantly, used in the home. Initially, many of these prescriptions revolved around the question of whether television currently offered any programs that were worthy of recording in the first place. Gould, for example, ridiculed the idea of “home TV recorder[s] … designed to tape, say, ‘The Dating

Game' off the air and then play it back for further questionable relish."[30] Similarly, *Saturday Review* film critic Hollis Alpert made it clear to readers that watching "what you want, when you want" should not entail private screenings of the *Beverly Hillbillies* (CBS, 1962-71) or *Rowan and Martin's Laugh In* (NBC, 1968-73).[31] Television tape recorders they argued, stood only to compound the "cultural injury" the networks inflicted on the public on a daily basis.[32] Furthermore, for many critics, it was inconceivable that anyone would spend hundreds or perhaps thousands of dollars on a device that recorded television programs. After all, they reasoned, television already had a built-in mechanism that allowed viewers to catch programs they had missed: summer re-runs.

Critics were joined in asking which television programs warranted recording by the electronics manufacturers and communications conglomerates seeking to commercialize their home video concepts. Both constituencies were equally consumed by the question of whether home video could ever be anything more than "do-it-yourself reruns," but for very different reasons.[33] Throughout the 1960s critics and manufacturers identified video recording with specific forms of meritorious programming (including the fine arts, live coverage of breaking news, and critically-acclaimed dramas), agreeing on the notion that home video's primary application should be for the archiving of programs designated as

---

[30] Jack Gould, "Soon You'll Collect TV Reels, Like LP's," *New York Times* (September 3, 1967): 69.
[31] Hollis Alpert, "The Cassette Man Cometh," *Saturday Review* (January 30, 1971): 43.
[32] Alpert, "The Cassette Man Cometh": 42.
[33] "Do-It-Yourself Reruns," *Business Week* (April 18, 1964): 186

worthwhile by autonomous cultural experts. For example, in 1963, Telcan, a small British firm, publicly demonstrated an inexpensive home video format that recorded up to fifteen minutes of video on a two track open tape reel. A *Time* magazine reporter described the Telcan system's TV recording feature through an allusion to one of television's best received primetime dramas: "[t]elevision has finally completed its invasion of the American home. It will now be possible to record the family's very own Golden Treasury of *Dr. Kildare* to keep forever."[34]

If the *New York Times*' Klein had predicted that television's redemption would hinge on video's ability to bring the stage and concert hall into the home, *Time*'s reference to *Dr. Kildare* (NBC, 1961-66) suggested this much-needed reform might come from within the broadcast industry itself. *Dr. Kildare* was one of a crop of socially relevant "New Frontier dramas" "based on liberal social themes in which the protagonists were professionals in service to society."[35] During television's post-quiz show scandal image crisis, the networks' public relations departments actively touted these dramas as contemporary counterparts to the prestigious anthology dramas of television's "Golden Age." Critics welcomed these series for their liberal values, urban settings, contemporary themes, and pedagogic address, which supposedly cut a striking contrast with the situation comedies, adult westerns, and detective thrillers then

---

[34] "Look, Ma. I'm on TV! Home TV Recorder, Telcan," *Time* (December 20, 1963): 52.

[35] Watson, *The Expanding Vista*, p. 43. In 1963, *Dr Kildare* ranked nineteenth in the year-end Nielsen television ratings, averaging an audience of 12,177,600 viewers/week. In addition to *Dr. Kildare*, other New Frontier dramas included *The Defenders* (CBS, 1961-65) and *Ben Casey* (ABC, 1961-66).

dominating the Nielsen ratings.[36] For critics, the new "quality" dramas nicely complimented the new medium of home video, providing a suitable source of morally redeeming – if aesthetically unadventurous – programming that home video enthusiasts could record and archive. *Time*'s suggestion that viewers would assemble a "Golden Treasury" of these critically-acclaimed programs connected video recording to the established middle-class practice of book collection and display. Much in the same way as a handsome library of leather-bound volumes of the "great books" of Western literature indicated that one "placed a high premium on education, tradition, beauty, and time," a proudly displayed collection of critically-sanctioned television programs could be an index of one's cultivation and taste.[37] Provided viewers used video technology correctly – in other words, to selectively view redeeming programs from their personal audiovisual archives – home video recording could one day become, in the eyes of critics, a respectable leisure pursuit for America's status-conscious middle class.

Marketing materials for the Videocorder, Sony's first entry into the home video market, situated home video within a comparably stratified television taste

---

[36] Gould, in fact, singled out *Dr. Kildare* as especially edifying, writing that "the education of Dr. Kildare is the education of the set owner. Together they are becoming acquainted with the assorted dimensions of medical life." Jack Gould, "TV: Hospital Dramas," *New York Times* (March 12, 1962): 55.

[37] Janice A. Radway, *A Feeling for Books the Book-of-the-Month Club, Literary Taste, and Middle-Class Desire* (Chapel Hill, NC: University of North Carolina Press, 1997), 160. For more on the history of "great books" anthologies, see Joan Shelley Rubin, *The Making of Middlebrow Culture* (Chapel Hill: University of North Carolina Press, NC: 1992), 148-197.

hierarchy. When Sony introduced the Videocorder in 1965, at a base price of $995, initial media reports predicted a future rental market for taped plays, operas, and movies. While advertisements and brochures did not directly address the question of pre-recorded content, they hinted at the types of programming this device could be used to record off the air. These hints meshed with, and subtly commented on, contemporary discourses on television's programming and audiences. A headline in one 1967 brochure announced that with a Videocorder "*Important programs* may be seen time and time again." Below this copy a large photograph depicted a middle-aged couple intently viewing a rocket launch on a tiny monitor. "By the use of the Videocorder," the brochure explained, "important programs can be recorded on tape in your absence. Also, if two important programs are telecast simultaneously, one may be taped on the Videocorder while the other is viewed on a second TV set."[38]

While the copy in Sony's Videocorder brochure never explained what types of programs the highly subjective category of "important" television might include, the inset image of the rocket launch, the posture of the models, and the domestic location intimated that Videocorder's primary application would be for studiously scrutinizing recordings of momentous live television transmissions in

---

[38] Sony Corporation of America, "SONY for home video tape recording," (brochure: 1967). Italics mine. Beyond appealing to a specific taste public, Sony's definition of an "important" program served to address unresolved concerns that television recording might represent a violation of copyright laws. The brochure thus stipulated that the Videocorder be used to "transcribe … uncopyrighted television program[s] on tape for later viewing." Sony Corporation of America. Throughout the 1960s and 70s Sony would include ambiguous disclaimers such as this one in the manuals and sales materials for its home video tape recorders.

the home. Live transmissions of events such as rocket launches would no longer be lost to posterity; rather, Sony promoted to American consumers the idea that video players would allow them to document and archive their own personal collection of television's (and America's) most "important" TV moments. Nor, for that matter, would such programs be viewed passively; as is suggested by the male viewer's posture and hands-on involvement with the Videocorder's controls, home recording would require active engagement with both the technology and the content of video. The attentive posture of the two viewers intimated that through the magic of the video recorder, the living room was transformed from a site of passive consumption to a space of interactive engagement with history.[39]

Whereas *Time* had associated home recording with New Frontier dramas, Sony's juxtaposition of rocket ship and video recorder aligned the new medium with live television news coverage of America's conquest of the *final* frontier. Following the public relations crisis of the early 1960s, television networks recommitted themselves to documentary programming and current events programming in an effort to redeem the medium in the eyes of its critics. The space race was a frequent topic of these critically-approbated programs. As Lynn Spigel notes, NASA's efforts to land a manned flight on the surface of the moon "presented a whole new repertoire of images and created a whole new reason for

---

[39] Sony's depiction of this viewer's "hands-on" engagement with television's technology stands out in a period during which marketing discourses commonly linked the "hands-off" interactions made possible by push-buttons and remote controls with space-age technological breakthroughs. See chapter 1 above for more on the relationship of these two paradigms of interactivity to discourses of TV repair.

looking at television."[40] By linking its video recorder to the networks' coverage of the space race, Sony tapped into its attendant connotations of nationalism, human achievement, and technocratic rationalism. As was the case in many other advertisements that employed similar iconography, Sony's Videocorder brochure drew parallels between travel by rocket ship and the vicarious or metaphoric travel enjoyed by the home viewer. Video, much like the iconic rocket ship depicted in this photograph, was a vehicle for transportation or exploration: equipped with a Videocorder, a viewer could blast off in search of exciting programming.[41] Just as technological know-how had propelled America to a position of leadership in the space race, so too, the brochure implied, could advanced technology in the hands of conscientious viewers help Americans conquer the "TV problem."

But despite Sony's and other manufacturers' efforts to assimilate video recording within established TV taste hierarchies, critics remained suspicious of the premise of TV tape recorders. This suspicion would lead some to endorse video systems that lacked recording capabilities. Ironically, these systems were designed and/or manufactured by the parent companies of the American television networks.

---

[40] Lynn Spigel, *Welcome to the Dreamhouse: Popular Media and Postwar Suburbs* (Durham, NC: Duke University Press, 2001), 115.
[41] Lynn Spigel, "White flight," in Lynn Spigel and Michael Curtin (eds.) *The Revolution Wasn't Televised: Sixties Television and Social Conflict*, (New York: Routledge, 1997), 56.

Cartridge-TV and The "Software" Question

Around the same time that Sony introduced the Videocorder, Howard Klein reformulated his conjectures about video's domestic applications in another article appearing in the *New York Times*. If at first he aligned home video with the home audio recording hobby, Klein now linked video to hi-fi LP records:

> [V]ideo tape could be a boon, not to the hobbyist and home recorder, but to the serious music lover, if major record and film companies were to produce opera, ballet, musicals, concerts and recitals. Given sound as good as today's average $300 component system, and video comparable to the average home movie camera, video tape packages of Leontyne Price singing, Arthur Rubinstein or Vladimir Horowitz playing the piano, George Szell conducting would be worth a great deal.[42]

Klein's twin distinctions – between recording and playback, and between the home hobbyist and the "serious" music lover – anticipate the line many critics would draw between home video tape recorders and playback-only pre-recorded video systems. In promoting their magnetic tape video recorders, Ampex, Telcan, and Sony portrayed video "software" as a user-generated commodity: that is, users would produce their own programs, by recording TV broadcasts off the air

[42] Howard Klein, "The 'Big Sound' Is the Big Lure at the Show," *New York Times* (September 25, 1966): 53.

or by shooting their own home videos with optional camera accessories.[43] But starting in 1967, American entertainment corporations CBS Inc. and RCA pioneered a different approach to defining video's software and, by extension, the new medium's relationship to television. In August 1967, CBS issued a press release announcing Electronic Video Recording, or EVR, a pre-recorded video system that used specially-designed miniaturized film (rather than videotape) to store up to sixty-minutes of black-and-white or thirty-minutes of pre-recorded color programming. CBS's announcement put an end to months of rumors that Peter Goldmark, the president of CBS Laboratories, had invented "A metal disk [*sic*] that reproduces motion pictures through a television set much in the same manner as a long-playing record reproduces music through a high-fidelity phonograph."[44] Almost immediately, critics and reporters covering the arts and the entertainment industries began issuing detailed wish lists outlining the types of programming they hoped would appear on EVR. While their requests ran the gamut from a lesson with noted cellist Pablo Casals to heavyweight boxing matches, many were of the opinion that EVR would prove a natural home for "quality" programming: in other words, plays, operas, ballets, concerts, lectures, and other types of highbrow fare.[45] Surprisingly, CBS appeared to be more than

---

[43] In the 1960s and 1970s, manufacturers, critics, producers, and countercultural video makers all used the term "software" for video programming.
[44] Jack Gould, "C.B.S. Developing Disk to Play Movies Through Home TV Sets," *New York Times* (February 28, 1966): 1.
[45] "Click, Click – Its Casals," *Newsweek* vol. 70 no. 11 (September 11, 1967): 59; Joan Walker, "The Night the Flying Nun Was Grounded," *New York Times* (October 1, 1967): 133.

willing to oblige these requests: one 1971 pamphlet suggested that with EVR viewers would have the choice between watching a range of titles that might include a video "essay" hosted by Bertrand Russel, a "film selection from [the] library of Shakespeare," or "the Horowitz concert at Carnegie Hall."[46]

With the advent of EVR, the incipient home video market effectively split in two. While some manufacturers, including Sony and Ampex, would continue to pursue David Sarnoff's dream of a low-cost home video tape recorder, others would follow CBS's lead and devise systems for playing programs pre-loaded onto cartridges or cassettes. Within two years, RCA demonstrated its own Cartridge-TV format, SelectaVision Holotape. RCA proposed to use what at the time were two extraordinarily novel technologies, lasers and holograms, to store video on inexpensive vinyl tape.[47] Impressed by CBS's and RCA's support for pre-recorded video, prominent critics predicted that these entertainment giants' extensive software libraries would give Cartridge-TV a distinct edge over video recording systems. For those dismayed by the state of commercial television program, EVR's and SelectaVision's inability to transcribe TV broadcasts at home was hardly seen as a flaw. In fact, some cultural intermediaries hopes for these systems appear to have stemmed from the fact that users would be

---

[46] "The New Dimension of Television" (Brochure, Motorola, c. 1971). Box 11, Folder 82, ID # R021481, Motorola Heritage and Archives Services, Schaumberg, IL. (Hereafter referred to as Motorola Archives.)

[47] Other companies backing pre-recorded video systems in this period included Teldec (a partnership of German AEG-Telefunken and the British Decca records), and Avco, which marketed a magnetic tape recording system along with a library of pre-recorded video titles. See below for more on Avco's home video system.

required purchase or rent pre-recorded software, much in the same way as they did LP records or books.

Though their technologies were incompatible, CBS and its partners (a consortium that included Motorola, which had been granted an exclusive licensed to manufacture and market EVR players in the U.S., as well as a handful of independent software producers, packagers, and licensees) and RCA followed similar strategies when it came to publicizing their video systems. As much as possible, they steered discussions about Cartridge-TV towards the matter of video software, and away from the questions raised by the untested technologies they hoped to employ.[48] Both assured the public that by the time their respective systems arrived in stores viewers would have a choice of programs featuring renowned performers, celebrated arts venues, esteemed educators, and canonical works of art, along with children's programming, instructional videos, Hollywood films, championship sports, and television classics. The highbrow

---

[48] Doing so enabled CBS and RCA to gloss over the technical barriers to producing affordable pre-recorded video players. For instance, in the case of SelectaVision, RCA's decision to employ low-intensity lasers in its players raised a number of daunting issues. Lasers had never been used in consumer products before, and contemporary media reports suggested that new state laws regulating the use of lasers might prevent RCA from marketing SelectaVision Holotape in certain states. According to a 1970 article in *Saturday Review*, "Clearly, the RCA system is still a long way off in the future, and may face obstacles to acceptance on safety grounds: lasers, even low-powered ones, can cause eye damage." George Movshon, "Video Revolution," *Saturday Review* (August 8, 1970): 50. The *New York Times* reported in 1970 that "on the basis of potential retina damage associated with their light, lasters [sic] are starting to be subjected to regulation. Two states – Pennsylvania and Illinois have passed legislation requiring registration of lasers used in those states. Massachusetts is considering even more stringent measures" Roger Kenneth Field, "In the Sixties, It Was TV; In Seventies, Video Cassette," *New York Times* (July 5, 1970): 73.

leanings of many of the proposed software titles captured the attention of cultural intermediaries. According to a report by *Saturday Review*'s Hollis Alpert, RCA pledged that SelectaVision Holotape would deliver "classics of every kind" and "ballets for the devotee and the student." Alpert wrote, "RCA is confidently corralling some programming for what it calls SelectaVision. Seven Bolshoi ballets on cartridge, on a one-a-year basis. … Olivier has been contacted. He'll maybe do a play, and he'll give us an illustrated lecture on acting. Very cultural-sounding. They're all talking culture at the moment."[49] Alpert's comments betray more than a hint of skepticism. After all, cultural intermediaries had watched similar hopes be dashed by television over the course of the previous two decades. Nevertheless, by "talking culture," the companies involved in Cartridge-TV captivated the imaginations of cultural intermediaries, a constituency that would prove crucial to their efforts to promote their proprietary standards.

For decades, executives at the CBS and NBC networks had gone to great lengths to discredit television critics, painting them either as talentless hacks or elitist snobs whose moralizing agendas were out of touch with television's cultural democracy.[50] Why, after years of acrimony, did the parent corporations of the two largest broadcast networks court the same critics' approval for their Cartridge-TV systems? Moreover, why were critics willing to leverage their

---

[49] Alpert, "The Cassette Man Cometh," p. 42.
[50] William Boddy, *Fifties Television: The Industry and Its Critics* (Urbana, IL: University of Illinois Press, 1990), 233-43; Lynn Spigel, "The Making of a TV Literate Elite," in Christine Geraghty and David Lusted (eds.) *The Television Studies Book* (London: Oxford University Press, 1963), 64.

cultural capital in support of the commercial endeavors of the networks' parent companies? The answers to these questions lay bare the intricacies of the intermingling of art and commerce and expose as fiction the commonplace notion that cultural critics are principled opponents of commerce or technology. The companies developing Cartridge-TV systems recognized that critics could be important allies as they attempted to sell their Cartridge-TV systems to both internal and external constituencies. In his autobiography, Goldmark recalled that Gould's first report on EVR inspired a run on CBS stock. In fact, according to Goldmark, Gould's enthusiasm for EVR alerted at least one CBS executive to his innovation's significance: "'If it's in the *Times*,'" Goldmark recalls the executive saying, "'it must be important.'"[51] Marketing materials and internal reports circulated in this period quoted liberally from Gould's and other critics' writings on video. A 1971 Motorola Teleplayer pamphlet made explicit the EVR consortium's sensitivity to critic's opinions of Electronic Video Recording: "Traditionally, the most discerning watchdog of any new departure from existing methods is the press," the pamphlet explained. "Their critical comments are designed to inform, based on their qualifications as professionals."[52] The pamphlet then went on to present a collection of headlines and quotations from journalists' glowing reports on EVR as evidence of the CBS's cartridge format immense promise. The

---

[51] Peter Goldmark and Lee Edson, *Maverick Inventor: My Turbulent Years at CBS* (New York: Saturday Review Press, 1973), 185.
[52] "Electronic Video Recording and the Motorola Teleplayer: A Whole New Thing in Communications" (Pamphlet, Motorola, 1971). Box 11 Folder 83, ID # R021482, Motorola Archives.

selected quotes painted Cartridge-TV as an important educational tool, and anticipated a bright future for EVR in the home. RCA, too, used critic's endorsements of Cartridge-TV to imbue SelectaVision with a sheen of high culture. A 1969 strategy report reproduced in large type the headline from one of Gould's glowing articles on EVR ("Soon You'll Collect TV Reels, Like LP's") and quoted at length Gould's opinions on Cartridge-TV's cultural and educational applications.[53]

The cultural critics writing on video in the 1960s did not wish to halt the march of technological "progress" or turn back the clock to the era prior to their contemporary age of electronic mediation. Nor, for that matter, were they so principled as to allow their grievances with the U.S. television networks to color their responses to the pre-recorded video technologies of CBS Inc. and RCA. On the contrary, foremost on critics' minds were questions about how new video technologies would impact the cultural hierarchies that legitimized their authority.

---

[53] The quote, in its entirety, follows:

> By far the most interesting aspect of the innovation is its promise to introduce to the television medium the element of individual selectivity that up to now has been lacking. It has been said with considerable justification that of all the so-called mass media the long playing record is by far the most democratic. While using the same technical facility in the home, the individual has the widest possible range of artistic choice, from the symphony to pop, from serious dramatic plays to night club sketches. A huge medium appealing to millions has thrived on limitless diversity exercised not alone by a few smug impresarios but rather by the separate parts of the multitude.

Quoted in T.O. Stanley and H. Tan, "Video Player Systems, Part II," (Corporate Report, RCA, 1967), 4-5. Robert Bartolini Collection, Sarnoff Library Records.

Cartridge-TV promised to introduce into the American cultural diet a level of diversity they believed it presently lacked. Perhaps even more importantly, its reliance on outside programming sources promised an expanded role for the cultural intermediary. Much in the same ways as readers relied on literary critics for book recommendations and hi-fi enthusiasts on music writers for insight into the newest LP releases, so too critics likely assumed would home video enthusiasts seek out expert guidance when it came time to select pre-recorded programming to view on their video systems. By intervening in negotiations over Cartridge-TV's cultural meanings at this early stage of this medium's history, critics preemptively staked out positions for themselves as the preeminent arbiters of an emergent cultural form. Though by no means successful in the long run, their attempts to ensure that these systems were commercialized in a manner that preserved or even augmented their power and profile demonstrates that groups rich in cultural capital may, under the right circumstances, subtly shape the trajectory of technological change.

It was CBS's and RCA's decisions to market Cartridge-TV as a narrowcasting medium that paved the way for this partnering of interests.[54]

---

[54] Computer visionary J.C.R. Licklider introduced the term narrowcasting in his contribution to the Carnegie Commission's *Public Television: A Program for Action*. Licklider wrote:

> I should like to coin the term 'narrowcasting,' using it to emphasize the rejection or dissolution of the constraints imposed by commitment to a monolithic mass-appeal broadcast approach. … Narrowcast, however, may suggest more efficient procedures than broadcasting throughout a wide area in order to reach a small, select audience, and it is meant to

According to executives at both companies, Cartridge-TV would make it possible to deliver specialized programming to audiences too small to be registered by broadcast ratings. “Television is basically a common denominator medium,” CBS executive Peter Brockway told the *New York Times* in 1970. “To reach selected groups, we’ll go with cartridges.”[55] As was the case in contemporary discourses on public broadcasting, the identity of these “selected groups” was hardly concealed. The companies backing Cartridge-TV would initially concentrate their efforts on marketing their video systems to affluent and educated individuals, a demographic whose members were perceived to be increasingly dissatisfied with network television. Throughout the 1960s, broadcasters fretted over the loss of affluent and educated viewers, an audience comprised, according to *Variety*, of “doctors, lawyers, teachers, and business leaders. In short, the opinion makers, the people who used to talk up the medium and who used to get excited about its crusades and accomplishments as well as its failings.”[56] Surveys released in 1966 by Louis Harris appeared to confirm the general suspicion that “‘the wealthiest, the most alert, the most literate, and the most mobile’” Americans,

---

> imply not only that the subject matter is designed to appeal to selected groups but also that the distribution channels are so arranged as to carry each program or service to its proper audience.

J.C.R. Licklider, “Televistas,” in Carnegie Commission on Educational Television (eds.), *Public Television: A Program for Action* (New York: Bantam, 1967), 212-13.

[55] Field, “In the Sixties, It Was TV,” p. 73.

[56] Quoted in William Boddy, “Senator Dodd goes to Hollywood: Investigating Video Violence,” in Lynn Spigel and Michael Curtin (eds.) *The Revolution Wasn’t Televised: Sixties Television and Social Conflict* (New York: Routledge, 1997), 177.

"people earning more than $10,000 a year and college-educated," were tuning out television in droves. At a moment when it was feared that the so-called "intelligent audience" for television was dwindling, video promised a new way of reaching this small, yet influential segment of the population.[57] As one executive explained, the virtue of video was that it could cater to the tastes of a diverse spectrum of demographic groups, "'including the large intellectual minority, which was abandoned for so many years by television and film."[58] Assuming that this "intellectual minority" still read highbrow television criticism, it was in the interest of the companies backing Cartridge-TV to cultivate the interest and support of critics like Gould, Laurent, and Alpert.

For CBS and RCA, this strategy presented many advantages. For starters, common sense indicated that the high retail prices of pre-recorded video systems would initially limit their potential market to wealthy consumers. CBS suggested home EVR players would cost between $280 and $795; RCA publicly announced SelectaVision would retail at $400.[59] In either case, for the foreseeable future, pre-recorded video systems would carry steep price tags. Not until production costs stabilized, volume increased, and retail prices fell, would Cartridge-TV go

---

[57] Of course, broadcasters, through the Television Information Office (TIO), provided their own numbers which, unsurprisingly, contradicted the findings of the Harris poll. According to the TIO, "quality-audience viewing" was actually on the rise, with the strongest gains being made in the all-important twenty-one to twenty-five year old age group. Both figures are quoted in Robert Lewis Shayon, "When Everybody Loses," *Saturday Review* (February 25, 1967): 60.
[58] "Hofberg boosts video disk," *Billboard* (May 15, 1971), Special Section, 4.
[59] To put these numbers in perspective, in 1969, the average retail price for a black and white television set was $78, and for color $328. Sterling and Kittross, *Stay Tuned*, p. 864.

from being a "class" medium, patronized by affluent hi-fi enthusiasts and classical music connoisseurs, to a true "mass" medium that could be found in nearly every television household. In the meantime, establishing video as a consumer product would require manufacturers to aggressively market their systems to those who could afford them. That meant enticing wealthy consumers with promises that video would deliver programming they would be unable to find on commercial television.[60] Thus even as he disclosed to *Variety* that he was pursuing Frank Sinatra, Elvis Presley, and Charlie Chaplin to appear on cartridges, Tom McDermott, director of programming for RCA's SelectaVision, maintained to reporters from the *Times* and *Saturday Review* that the SelectaVision library would respect and uphold classical conceptions of good taste.[61] Explained McDermott: "'We're going to win this battle by doing what they're not doing on TV. We'll give them Tanglewood and exciting conductors, opera, ballets and moon landings."[62] Such careful hedging is characteristic of the intricate discursive

---

[60] RCA had followed a similar strategy when it first rolled out its expensive line of color television receivers in the 1950s. As Mark Alvey's revisionist history of the emergence of niche programming strategies in the 1960s demonstrates, RCA subsidiary NBC went to great lengths to publicize its leadership in attracting upscale urban viewers. In particular, Alvey discovered, network marketing documents emphasized that NBC's many color offerings made it the network of choice amongst the very same population that would later be identified as the primary market for home video. These parallels illuminate the degree to which audience demographics were a major driving force of both network policy and technological development at RCA and NBC in the 1960s. See Mark Alvey, "'Too Many Kids and Old Ladies': Quality Demographics and 1960s US television," *Screen* vol. 45 no.1 (Spring 2004): 50.

[61] "$50-Mil RCA Vidcassette bet," *Variety* (October 28, 1970): 1.

[62] Roger Kenneth Field, "In the Sixties, It Was TV, " 73. For more on the development of niche marketing and market segmentation, see Lizabeth Cohen,

maneuvers performed by RCA and other companies as they attempted to cultivate the interest of the "class" market while laying the groundwork for Cartridge-TV to become a mass medium. And because it was assumed that the so-called "class" market did not watch much television to begin with, CBS and RCA only stood to gain by promoting Cartridge-TV in this manner.[63]

Manufacturers based their decision to initially market Cartridge-TV to affluent individuals who watched little television on market research that suggested that this population's numbers were expanding. According to a 1967 RCA internal report on pre-recorded video systems, the American middle class was in the process of upgrading its tastes and changing how – and what – it consumed. College attendance was on the rise, as were expenditures on travel, literature, and self-improvement courses. The consequences of these trends, the report claimed, could be observed in the demise of general interest magazines and network radio and the shrinking ratings of the most popular television programs: a growing number of Americans now valued quality, selectivity, and

---

A Consumer's Republic: The Politics of Mass Consumption in Postwar America. (New York: Knopf, 2004), 295-6.

[63] This assurance proved crucial when selling EVR and SelectaVision to internal audience, including shareholders and executives. On a number of occasions during EVR's development, CBS Chairman William Paley withdrew funding from the EVR project upon growing concerned that video would cannibalize the CBS television network's audience share. By reiterating that EVR was first and foremost an instrument for audiovisual education, and only secondarily a consumer electronics device, Goldmark managed to keep funding for the project alive. See Goldmark and Edson, *Maverick Inventor*; Karen J. Freeze, "A Mostly Abortive Chapter in the Pre-History of the HVE (Home Video Era), Electronic Video Recording, 1960-1973" (Unpublished Paper: 1999).

diversity in their entertainment, and were willing to pay a premium to access it.[64] On account of its ability to cater to viewers' "selective" tastes with specialized programming, Cartridge-TV represented for the parent companies of the broadcast networks an insurance policy of sorts. At a moment when television advertisers' interest in demographic data was beginning to rival their fixation on gross audience numbers, CBS and RCA saw Cartridge-TV as a way of reaching elusive and affluent consumers. In addition to generating revenues from hardware and software sales and rentals, the cartridge audience could itself be sold to sponsors. Thus RCA's McDermott predicted that cigarette companies would purchase space on cartridge labels, or insert their commercials within pre-recorded programs, while others suggested cartridges might be used in direct advertising, replacing the printed circular.[65] In either case, Cartridge-TV would serve CBS and RCA as a supplement – and not a challenge – to their broadcasting interests.

To capitalize on this expanding "class" market, the authors of RCA's pre-recorded video report recommended video be marketed as a prestige product "exemplifying culture in the home, whether or not one watches cultural selections."[66] In their respective promotional campaigns, CBS and its partners and RCA attempted to impart video with a sheen of high culture, aligning their home video formats with taste hierarchies and cultural value-systems compatible

---

[64] T.O. Stanley and H. Tan, "Video Player Systems, Part II," pp. 3, 5.
[65] Roger Kenneth Field, "In the Sixties, It Was TV," p. 73.
[66] T.O. Stanley and H. Tan, "Video Player Systems, Part II," pp. 3, 5.

with the aesthetic agendas of widely-respected artists, educators, and television critics. To demonstrate its commitment to original programming, RCA pledged $50 million to content development and promised that more than one hundred titles would be available for purchase by the time of SelectaVision's scheduled launch in 1972.[67] According to RCA press releases, future titles would encompass the full spectrum from "Wagner and Westerns."[68] While not investing directly in production itself, CBS enlisted a roster of prestigious names to produce EVR software, including composers William Schuman and Leonard Bernstein; Schulyer Chapin, the former director of programming at Lincoln Center; Eugene V. Rostow, Dean Emeritus of the Yale Law School; drama critic Clive Barnes; documentary producer David Wolper; and publications including the *Evergreen Review* and the *New York Times*. Also brought on board were popular entertainers like Rowan and Martin, Jack Benny, and George Burns, star athletes and professional sporting associations, and 20th Century Fox, which in 1971 pledged to transfer films five years and older to EVR.

Though such a diverse field of software producers was bound to generate a wide range of programming, television critics downplayed the appeal of cartridges containing Hollywood films or classic television programs. Instead, they stressed home video's potential to deliver to viewers programming unlike

---

[67] "Cartridge TV – It Could Be the Next Boom Industry, But It Is a Threat to Conventional Broadcasting?" *Television/Radio Age* (August 24, 1970): 25-7, 53.
[68] "Tape views," (Press Release, September 1969), David Sarnoff Research Center Public Relations Collection, Box 16 Folder 8, Sarnoff Library Records.

that which was presently found on television.[69] The support these critics lent to pre-recorded video signals a significant shift in their conception of how home video would participate in the reform of U.S. television. Unlike video recorders, EVR and SelectaVision did not single out television's most redeeming programs or enshrine historic live transmissions on tape; critics instead praised these devices as *alternatives* to traditional forms of broadcasting. With a Cartridge-TV player, the discriminating viewer would have the power to "ignore commercial TV's rigid timetable and standardized fare," Edward Kern noted in *Life*.[70] Instead of subjecting themselves to the networks' "lowest common denominator" fare, they would watch what they wanted, when they wanted, tuning out "*Batman* for a lecture, a play, a concert, [or] an Odetta Folk Song."[71]

Gould, one of the harshest critics of the concept of home video recording, was the first television critic to enthusiastically report on EVR's potential implications for the American broadcasting system. Gould first learned of EVR after hearing about a 1965 presentation in which Goldmark showed a prototype EVR system to members of the Carnegie Commission on Educational Television,

---

[69] Bruce Carl Klopfenstein, *Forecasting the Market for Home Video Players: A Retrospective Analysis* (PhD. dissertation, Ohio State University: 1985), 360. Certainly, television critics found it in their own best interests to concentrate on home video programming. By focusing on future video titles, critics translated unfamiliar technologies into terms they—and their readers—were more familiar with. At any rate, it was easier for many of these journalists to write about programming than it was to explain the scientific principals behind vidicons, miniaturized film frames, electron beam recorders, and low-intensity lasers.
[70] Kern, "A Good Revolution Goes on Sale," p. 47.
[71] Lee Edson, "Hottest Thing Since Color TV – EVR," *New York Times Magazine* (December 12, 1967): 80.

and was impressed enough by his informant's report to describe EVR as a "revolutionary" technology.[72] On a number of occasions between 1966 and 1967, Gould's daily columns excitedly relayed rumors about EVR. At this early stage, Goldmark was primarily pitching his invention as an educational instrument in private presentations to educators and potential manufacturing partners. On the orders of CBS Chairman William Paley, Goldmark downplayed EVR's domestic applications, assuring both internal and external audiences that it would be years before EVR was ready for home use.[73] Despite these assurances, Gould was so moved by the *premise* of EVR that in 1966 he observed that "The economic and social implications of the disk [sic] are described as almost limitless. Viewers at home would have the same freedom of choice in picking motion pictures that they now have in selecting long-playing music records." He went on to predict a new future for television, one in which the family set was no longer a dumb terminal receiving signals broadcast indiscriminately from afar, but instead an interactive device over which the selective viewer exercised his own choice and control. "If TV records can be sold,

---

[72] Endorsements for EVR also came from the Carnegie Commission on Public Broadcasting, which described EVR as an important new educational instrument. Note that the report did not identify EVR by name. See Carnegie Commission on Educational Television (eds.), *Public Television, A Program for Action: The Report and Recommendations of the Carnegie Commission on Educational Television* (New York: Bantam Books, 1967), 193-200.
[73] Goldmark and Edson, *Maverick Inventor*, 190.

exchanged, or circulated with the same ease as books or music recordings," he told his readers, "the true import of the visual age would still lie ahead."[74]

Gould's enthusiasm had little cooled by EVR's public debut. In his report on CBS's long-anticipated announcement, he compared it to the long-playing record, another Goldmark innovation, in a play to reclaim the idea of a "cultural democracy" from television broadcasters.

> It has been said with considerable justification that of all the so-called mass media the long-playing record is by far the most democratic. While using the same technical facility in the home, the individual has the widest possible range of artistic choice, from the symphony to pop, from serious dramatic plays to nightclub sketches. A huge medium appealing to millions has thrived on limitless diversity exercised not alone by a few smug impresarios but rather by the separate parts of the multitude.

By introducing the same degree of selectivity and choice that characterized the LP industry to television, EVR stood poised to inaugurate a true "cultural democracy," characterized by the proliferation of diverse niche audiences, and not the counterfeit consensus represented by TV ratings. Viewers would themselves assume control over the programming they watched, and tastes

---

[74] Gould, "CBS Developing Disk to Play Movies Through Home TV Set," *New York Times* (February 28, 1966): 1. Gould, "Taking Long Looks at TV's Future," *New York Times* (March 6, 1966): 19.

publics whose interests had thus far been ignored by television would finally have access to programming they found meaningful. Video would expand the audience for the world's most renowned performers, and at the same time rescue chronically under-funded art forms, including dance and opera.[75]

Gould was joined in his enthusiasm for this prospect by other critics and journalists. As *Saturday Review*'s George Movshon predicted, with Cartridge-TV,

> [it] will become economically feasible, indeed profitable, to serve audiences measured in no more than hundreds of thousands: to give groups of that size a little of what they want – be it Shakespeare or fretwork, philately or philosophy, ballet or animal husbandry. … Is there not, in the wide spectrum between Nicol Williamson's *Hamlet* and *Nicklaus Perfects Your Golf Swing*, a program you would not buy?[76]

For Gould, Movshon, and others of their persuasion, Cartridge-TV promised to put an end to the tyranny of the mass market. Whereas television's development as a popular art had been hamstrung by broadcasting's economies of scale, Cartridge-TV was ideally suited to the distribution of the sorts of aesthetically adventurous and intellectually challenging programs cultural intermediaries yearned to see return to television. The economic equations appeared

---

[75] Alan M. Kriegsman, From Lincoln Center to Video Tape Cassettes – With Gusto," *Washington Post* (October 25, 1970): 130; Peter Herman Adler, "Can TV Save Opera?" *New York Times* (September 13, 1970), HF1.
[76] George Movshon, "Video Revolution," *Saturday Review* (August 8, 1970): 50.

straightforward: “Primetime series seen by 25 million viewers on the commercial networks are often canceled as losers. But an opera attracting 500,000 cartridge patrons at $2 per rental might well earn a profit.”[77] “For 20-odd years,” Gould observed after testing an EVR player in his own home, “there seemed no alternative in electronics to the mass medium concept, with all its built-in limitations. For this writer, one night with an EVR unit demonstrated that such a concept is no longer valid.”[78]

Despite their claims that video could sustain an almost limitless diversity of programming options, for the most part critics offered surprisingly limited descriptions of what these options might include. Critics projected upon Cartridge-TV their ideal of a “cultural democracy” in which viewers would be able to watch nearly anything they wanted, so long as what they wanted to watch fit within the narrow spectrum between Hamlet and Nicklaus. The academy, the productive avocations, the Western canon, golf instruction, even animal husbandry all made appropriate subjects for cartridges. However, by their absence from Movshon’s list it would appear as if Hollywood films and old television programs were not. Conceived of in this manner, video’s diversity stood to benefit one taste public at the exclusion of all others. With the

---

[77] “Video Cartridges: A Promise of Future Shock,” *Time* (August 10, 1970): 40-1. RCA’s SelectaVision strategy embraced a similar logic. According to internal documents, while an audience of four-million homes for a televised opera would represent “a disastrously low rating in network television terms,” the same audience would constitute “an appreciable market segment by the measure” of Cartridge-TV. See Stanley and Tan, “Video Player Systems, Part II,” p. 12.
[78] Jack Gould, “Renting a movie or a professor to take home,” *New York Times* (April 5, 1970): 107.

encouragement of Brockway, McDermott, and other executives, critics imagined video as a class, and not a mass, medium. Only, instead of considering the full range of American's diverse tastes as fair game for television cartridges, they instead concerned themselves with video's applications for those who found television programming to be beneath them. With video, discriminating viewers would no longer be resigned to the choice between "least objectionable programming" or no television at all. Instead, they would gain access to a wealth of options appropriate to their brow levels. The stereotypical image of the passive and indiscriminate viewer sinking back into a recliner had no place in these critics visions of video's future. Replacing this figure was the technologically-advanced aficionado who watched purposefully and deliberately, scheduling his own private screenings of noteworthy cartridges. This ideal viewer watched television interactively, taking advantage of pre-recorded video systems' advanced features – for instance, EVR's ability to freeze on individual frames of film – to labor over full color reproductions of paintings or the advanced techniques of master musicians. He also was a collector, and would accumulate a library of video software that would complement his collections of literature and hi-fi LPs.[79]

---

[79] As Gould wrote, "With the device, if a viewer wants to see a beautiful or puzzling scene from a play for a second time, he need only push a button to rewind the film in the EVR cartridge and take another look. … Another button can freeze a single picture in a program. In the case of a tour of the Louvre, for instance, the TV director would have no vice in how long one might stare at the 'Mona Lisa.' The smile could be kept on the screen all night." Jack Gould, "Color TV Tapes Shown in Home," *New York Times* (March 25, 1970): 75.

Needless to say, not all cultural intermediaries took promises that EVR and SelectaVision would be a boon for the arts at face value. Stung by television's failure to live up to similar expectations in the 1950s, some critics interpreted these promises of high culture video offerings as cynical marketing ploys. But despite any lingering doubts they have held about the depth of the EVR consortium's and RCA's commitment to "legitimate" culture, for the most part critics applauded their pledges to source programming from artists and educators, and not from the dregs of the "vast wasteland." With the encouragement of CBS and RCA, cultural intermediaries allowed their imaginations to run wild. Ideas for video software included great lectures, collections of Shakespeare's plays, poetry readings, and Andy Warhol's experimental films and videos.[80] The *Los Angeles Times*' Wayne Warga, for example, reported that with EVR,

> Impresarios of culture will finally get a crack at the television audience with the likes of Mehta, Bernstein, Cage, and La Mama. Such are the proposed eventual economics of the medium that the big studio mogul will fight inch

[80] Peter Guber, "The New Ballgame: The Cartridge Revolution" (Special Supplement) *Cinema* vol. 6 no. 1 (1969); "A New Medium – and a Lot of Messages," *Newsweek* (August 10, 1970): 42; Logan Smiley, "TV: The Coming Revolution," *Print* vol. 24 no. 5 (September/October 1970): 75.

> for video-tape inch with the little known off Broadway producer. The minority viewer may, at last, have his say.[81]

While their most inspired speculation was reserved for software titles, cultural intermediaries were also intrigued by the potential distribution models being proposed by hardware and software manufacturers. Some intermediaries anticipated that cassettes and cartridges would be ubiquitous in retail outlets, with video racks replacing the paperback book racks that were staples of both drugstores and supermarkets.[82] Others foresaw direct mail services modeled after the successful Book-of-the-Month-Club, complete with boards of esteemed critics who would be charged with overseeing the selection of noteworthy titles on a monthly basis.[83] More technologically-oriented observers contended that cassettes and cartridges were only a first step towards a future in which software would be centrally stored, perhaps in computerized data banks, and called up by home viewers using a telephone or computer terminal.[84]

---

[81] Wayne Warga, "TV Gazes into Crystal Ball, Sees Black Box," *Los Angeles Times* (May 31, 1970): C1.
[82] Smiley, "TV: The Coming Revolution," p. 73-4.
[83] Roger Kenneth Field, "In the Sixties, It Was TV," p. 73.
[84] Wrote William C. Woods, "The ultimate vision foresees a day in which every home receiver will be plugged into a central computer matrix whose data banks will be able to supply instantaneously every cassette ever recorded, every book in every library. Quite literally, every house that has a television in it will be a potential recipient of every artifact of man, however produced or recorded. This – now – is a dream. But it is not an idle one." William C. Woods, "Television 1980: the Medium Is the Message," *Washington Post* (November 15, 1970): 172.

Certainly the most intriguing answer to the question of how would video software be distributed was offered up by an advertisement for the *Saturday Review*. In January 1971 the magazine launched a new monthly "MultiMedia" supplement, which would offer reports on developments in the Cartridge-TV field, along with coverage of the film, television, and recording industries. *Saturday Review* announced this special section's premiere with a full-paged advertisement in the *New York Times*. "Ask your milkman to leave you the Bolshoi Ballet, Leonard Bernstein, two string quartets, and a dozen eggs," the advertisement instructed readers in large, boldface type. The ad continued:

> It's not as crazy as it sounds. There's a report in this week's issue of *Saturday Review* about an enterprising gentleman from the Midwest who has organized several milk companies to deliver other products to homes along with the regular delivery of daily milk. He proposed to one of the major corporations currently involved in developing video-cartridge television for the home that his milk trucks be used for a weekly delivery and pickup of rented cassettes.[85]

Merging the homespun and the ultramodern, *Saturday Review*'s description of this visionary proto-Netflix pointed towards a future in which the arts would become, like fresh eggs and milk, an essential daily staple within the reach of all

---

[85] *New York Times* (January 26, 1971): 34.

Americans. Indeed, many of the potential distribution schemes proposed by critics shared *Saturday Review*'s hope that video would be exploited to deliver "legitimate" culture directly into the homes of all Americans. The greatest beneficiaries of this expanded market for culture would not be cultural elites like themselves, who enjoyed access to theaters and concert halls, but rather the millions of "average" Americans for whom Lincoln Center was geographically or financially out of reach. With the widespread diffusion of pre-recorded video players, neither distance nor high ticket prices would any longer prevent viewers from experiencing performances of a caliber found in the world's cultural capitals. By simply patching a video player into the antenna terminals of a standard television receiver and plugging in the cartridge picked up at the grocery store or delivered with that morning's milk, any home could play host to the finest artists or ensembles. High culture would be democratized, and made accessible to all, within the comforts of one's own home.

Critics harbored few illusions that the general public desired to trade sitcoms and soap operas for "challenging" dance and theater. Still, a considerable number held out the hope that Cartridge-TV would place into crisis American television's mass-market model. Like liberal political reformers, they believed that the competition sparked by technological innovation would be the key to reforming television. By fragmenting the mass audience into smaller taste publics, and by granting each of these tiny publics the means to pursue their own individualized tastes, Cartridge-TV would make it impossible for broadcasters to

sustain “lowest common denominator” programming strategies intended to draw the largest possible gross audience numbers. Their wager was that once programming that embraced the values of quality and diversity was as readily available as imitative pap, the “class” audience would follow critics in a mass exodus from the “vast wasteland.” In making this argument, cultural intermediaries failed to recognize that it would take more than the availability of fine arts and educational programming and the guidance of credentialed experts like themselves to transform American television. In his research on museum attendance, Pierre Bourdieu determined that education, social class, and family upbringing were vastly more important than access when it came to determining which individuals were most likely to visit museums. For many members of the working and middle classes, Bourdieu argued, museums were forbidding places, not because of their admission fees, but rather because within the space of the gallery it was assumed that one held certain cultural competencies that the majority did not possess. The incomprehension, boredom, or even humiliation people experienced when they did not possess these competencies acted as a deterrent that prevented them from again seeking out exposure to “high” culture. Only, these competencies were not, as aesthetes and experts have traditionally held, reflections of an innate aesthetic disposition, but rather of forms of education and inheritance available only to society’s most privileged members.[86]

---

[86] Pierre Bourdieu, *The Love of Art: European Art Museums and Their Publics*, trans. C. Beattie and N. Merriman, (Cambridge: Polity Press, 1997).

Bourdieu's findings illuminate the most glaring limitations of television critics' preoccupations with the roles technological innovation would play in rehabilitating television. The would-be reformers who identified pre-recorded video systems like EVR and SelectaVision as technological solutions for the "TV Problem" praised Cartridge-TV for reducing barriers to access to programming they deemed worthwhile. Yet, paradoxically, they seemed disinterested in addressing the ways in which the new medium left intact those basic yet formidable barriers that denied the majority of individuals the opportunity to acquire the educational and social resources needed to appreciate "legitimate" culture in the first place. With the rollout of pre-recorded video systems, "legitimate" culture would remain an expensive alternative to "free" TV. Consumers would be forced to pay hundreds of dollars for video hardware, and, on top of that, retail or rental fees for software. Until prices dropped, cost alone would restrict the audience for Cartridge-TV to affluent consumers who, in all likelihood, already enjoyed access to "legitimate" culture. But even when the cost of video hardware and software fell, daily doses of Bernstein and ballet would do little to affect individual tastes if viewers still lacked access to the "cultural codes" needed to decipher them. Simply being able to afford cartridges containing symphonies and Shakespeare did not mean that viewers would watch it. Whether delivered by milkmen, computerized data banks, or a noncommercial public broadcaster, "legitimate" culture would be meaningful only to those who were receptive to it to begin with.

As defined by television critics, Cartridge-TV stood to consolidate their privileges of cultural elites, at the same time it relieved them of any investment in seeing broadcasting reformed. To paraphrase Warga, the “minority viewer” would finally have his say. Assuming Warga was right, how would this newly empowered viewer exercise his newfound voice? Would he use it to demand programming that represented and respected the ethnic, gender, class, and regional diversity of the U.S. television audience? Or, conversely, would he use it to demand programming that confirmed the superiority of his own tastes, and imposed his values upon those that did not have the good fortune to share them? No matter how cultural elites chose to exploit the platform Cartridge-TV presented them with, it remained to be seen whether anyone outside the taste public to which they belonged would be listening. In their eagerness to define the video medium at height of its interpretive flexibility, cultural intermediaries appear to have overlooked the very real possibility that a diverse Cartridge-TV software market would leave the broadcast network’s hegemony untouched, if not strengthened. If anything, the belief that a multimillion dollar market for cartridge software was just around the corner provided the U.S. networks with a strong *disincentive* to examine their programming priorities and practices. After all, why carry on any pretense of broadcasting programs that would appeal to the small portion of the audience that was more interested in Cage and La Mama than in Flip Wilson and Marcus Welby when, according to the critics who acted as this population’s unofficial spokespeople, its members would jump at the opportunity

to abandon television for cartridges? Meanwhile, diverse cartridge libraries would provide CBS and RCA with an easy retort to their critics' complaints about "lowest-common-denominator" and programming. Without having to change their broadcast networks' nightly schedules in the slightest, CBS and RCA could satisfy their critics' calls for quality and diversity, while at the same time maintaining their commitment to providing their sponsors with the largest possible audiences for their advertisements. In this respect, Cartridge-TV was far from the revolutionary innovation its proponents made it out to be. On the contrary, if implemented in the fashion proposed by CBS and RCA and sanctioned by highbrow cultural intermediaries, it stood to do little outside of reinforcing broadcasting's decades-old status quo.

Alternative Visions: The Backlash Against Cartridge-TV

Television critics were not the only ones who formed strong opinions about Cartridge-TV during this period. Countercultural artists, activists, and media "guerillas" also took note of EVR and other Cartridge-TV systems, but came to very different conclusions about the impact these technologies would have on the "TV Problem." While enthusiastic about videotape's ability to undermine "that system of perceptual imperialism called broadcast television," movement ideologues criticized Cartridge-TV systems for negating what they considered to

be video's essential qualities as a medium: its portability and the ease with which viewers could make and reproduce their own tapes.[87]

The technological diversity of the video systems promoted in this period marked video as a versatile solution for the "TV Problem." This diversity also obscured the interests held in common by the diverse constituencies committed to finding a technological solution to television's problems. As discussed above, television critics were dubious about home video recorders, as they saw little value in devices that would enable viewers to record and preserve the dross of television's "vast wasteland." Meanwhile, the same systems that television critics suggested would usher in a new televisual democracy members of the video counterculture excoriated as perpetuating the anti-democratic, top-down flows of network television. It was these two constituencies' divergence over the roles electronic media would play in a modern democracy that led them to endorse these incompatible video technologies. The video counterculture identified itself as a "post-political" movement, and dismissed agonistic politics as "'irrelevant'" and obsolete. As Patricia Mellencamp recounts, on paper, its most vocal ideologues "uncritically embraced democratic pluralism and the politics of diversity," advocating a communitarian (if not socialistic) democracy, premised on ideals of self-government, access, participation, collaboration, and power

[87] Ryan, *The Cybernetics of the Sacred*, p. 45.

sharing.[88] According to videomakers, network television's broadcasting paradigm, optimized for the centralized diffusion of standardized messages originating from elite sources and received by a mass audience on one-way terminals located in private homes, was incompatible with these democratic ideals. To encourage democratic discourse, videomakers advocated viewers take up inexpensive, portable, easy-to-use, collectively-owned, and collaboratively-operated magnetic tape video recorders and begin recording their own television programs.

In contrast to videomakers, television critics outlined a program for television reform in which highly-capitalized systems engineered to accept cartridges or cassettes pre-loaded with professionally-produced programming would spur viewers to reject the networks' "lowest-common-denominator" fare for educational or instructional programming and "legitimate" culture. Pre-recorded video systems promised to restore a "formal democracy" in the realm of American culture, one in which credentialed elites would enjoy an increased influence over both the creation of programming and the formation of viewer tastes.[89] If members of the video counterculture accused the network television paradigm of being too centralized and too hierarchical, critics complained it was not nearly hierarchical enough. To maintain the cultural strata that they believed

---

[88] Patricia Mellencamp, *Indiscretions: Avant-Garde Film, Video & Feminism* (Bloomington, IN: Indiana University Press, 1990), 50-1; Michael Shamberg, *Guerilla Television*, pp. 1, 12.
[89] John Kurt Jacobsen, *Technical Fouls: Democratic Dilemmas and Technological Change* (Boulder, CO: Westerview Press, 2000), 12.

were an essential ingredient of a viable democracy, it would be necessary to segment television's mass audience into sharply delimited taste publics. On account of its ability to target audiences of a size that would barely register in the television ratings, video appeared to be ideally suited for this task.

Videomakers' suspicion of Cartridge-TV grew out of their ideological commitment to the Porta-Pak and the democratic ideal of decentralized media creation for which it stood. Drawing on McLuhan's theories of medium specificity and their own loose interpretations of key texts in the field of cybernetics, videomakers argued that the majority of television's problems stemmed from technologies and an infrastructure engineered to deny viewers opportunities to "feed back" their own messages into the system.[90] Videomakers identified the

---

[90] See Marshall McLuhan and Quentin Fiore, *The Medium is the Massage* (Corte Madera, CA: Gingko Press, 1996); McLuhan, *Understanding Media: The Extensions of Man* (Cambridge, MA: MIT Press, 1996). Feedback was a key concept in Norbert Wiener's science of cybernetics. Emerging from Wiener's wartime study of ballistics, cybernetics touched countless disciplines in the postwar period, including biology, computer science, engineering, psychology, anthropology, and sociology. Central to the cybernetic worldview was the hypothesis that all systems, be they biological, social, mechanical, or some combination thereof, regulated themselves via processes of communication. Norbert Weaver, *The Human Use of Human Beings: Cybernetics and Society* (New York: Da Capo Press, 1954).

Upon first glance, 1960s radicals appear to share little in common with the cold war defense intellectuals who devised this cybernetic worldview. However, as both Jennifer Light and Fred Turner point out, the histories of these movements reveals that their members embraced comparable ideals and value systems, and organized themselves into homologously-structured social formations. In the research laboratories and think-tanks from which cybernetics emerged, an ethos of collaboration, egalitarianism, and interdisciplinarity flourished alongside a celebration of the transformative powers of technology. Similar ideals animated the movement that Turner calls the "New Communalists." Encompassing "both those who actually established … communes and those

Porta-pak as a technological means of restoring America's media system to a state of homeostasis in which messages radiating outwards from society's center were balanced by an equal number of messages originating from its periphery.[91] Combining input, output, and storage capabilities, the Porta-pak obviated the need for costly broadcast gear and network facilities, allowing nearly anyone to

---

who saw the transformation of consciousness as the basis for the reformation of American social structure," this movement "often embraced the collaborative rhetoric of mainstream military-industrial-academic research." The homologous structuration of, on the one hand, the anti-hierarchical and egalitarian structures of the communes, social movements, and coops of the 1960s and 1970s and, on the other hand, the sites where government-sponsored cold war defense research took place facilitated a two way traffic in vocabularies, epistemologies, and ideologies. For more detailed analyses of the 1960s' counterculture's appropriations of Wiener's cybernetics, see Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2006), 20-5; Jennifer Light, *From Warfare to Welfare: Defense Intellectuals and Urban Problems in Cold War America* (Baltimore, MD: The Johns Hopkins University Press, 2003), 163-194.

[91] Shamberg, *Guerilla Television*, p. 9. The other feedback mechanism members of the counterculture endorsed in this period was Community Antenna Television, or CATV. CATV promised to be local in orientation, rich in bandwidth (and channel capacity), and, most importantly, capable of accommodating two-way communications. However, truly interactive cable systems were years away from implementation. Moreover, even when the nation had been fully wired, there remained the likelihood that established communications corporations and multi-industry conglomerates would use their influence and resources to muscle out small-scale entrepreneurs and local community groups in the fight over franchise rights. But while cable's fate hung in the balance, artists and activists found in the Porta-pak a "self-contained" media system that provided an immediately viable alternative to television. See Ralph Lee Smith, *The Wired Nation* (New York: Harper Colophon, 1972). Jennifer Light and Thomas Streeter have written extensively on the utopian, or "blue sky," discourses that circulated around cable television in the 1970s. Both illuminate the diverse constituencies who came together in the interest of using cable to address cold war social and cultural dilemmas. See Light, *From Warfare to Welfare*, 163-230, and Thomas Streeter, "Blue Skies and Strange Bedfellows: the Discourse of Cable Television," in Lynn Spigel and Michael Curtin (eds.) *The Revolution Wasn't Televised: Sixties Television and Social Conflict*, (New York: Routledge, 1997), 221-44.

make, reproduce, and exhibit their own videos. Battery-powered video recorders could be set up literally anywhere, and lightweight handheld cameras could venture into environments where bulky and expensive television and film equipment could not – or would not – go. Meanwhile, distribution could be handled by tape exchange services or by roving "cybernetic nomads" who traveled the country in mobile media busses holding impromptu screenings at communes, community centers, and college campuses, thereby bypassing traditional television networks.[92] The Porta-pak represented for countercultural videomakers a self-contained technological solution to television's problems, one that would enable them to circumvent the "anti-democratic" structures of network television altogether. The alternative they would create would transform not only television, but society as well. As videomaker Michael Shamberg explained in 1971, "[o]nly through a radical re-design of its information structures to incorporate two-way, decentralized inputs can Media-America optimize the feedback it needs to come back to its senses."[93]

Though their work addressed different audiences, and was tailored to distinct contexts of exhibition, many artists, activists, and media guerillas shared a *process*-oriented understanding of video, whereby the act of using the Porta-pak to generate participation and feedback took precedent over the creation of tapes that could be reproduced or sold. In contrast to *product*-oriented television, in which viewers consumed a finished product (programming stored on film or

---

[92] Shamberg, *Guerilla Television*, p. 92.
[93] Shamberg, *Guerilla Television*, p. 12.

tape) at the same time as they themselves were transformed by broadcasters into a "product" sold to advertisers, movement ideologues argued that video's ability to be endlessly erased and re-recorded militated against the production of a "marketable product."[94] This process orientation led videomakers to focus most intently on developing alternative modes of distribution and exhibition, and set them apart from critics whose first priority was to see that the quality of broadcast television improved. Following a series of disastrous early encounters with the broadcast networks, many videomakers made a habit of swearing off collaborations with traditional broadcast outlets.[95] As videomaker and theorist Paul Ryan explained, "[r]unning to the networks with portable video material seems rear view mirror at best, reactionary at worst. What is critical is to develop an infrastructure … where feedback and relevant access routes can be set up as part of the process."[96] Renowned video artist Frank Gillette reiterated the counterculture's impatience with this "rear-view mirror" approach when in a 1970 interview he explained that "[s]triving towards better content on broadcast TV is

---

[94] Dudley Evenson, "Portable Video: the Natural Medium" *Radical Software* vol. 1 no. 5 (Spring 1972): 55.

[95] In 1969, the CBS network had enlisted the Videofreex, one of the first video collectives, to produce a broadcast pilot. Boyle describes the outcome of this collaboration in *Subject to Change*, p. 24-35.

[96] Ryan, "Cybernetic Guerilla Warfare," p. 1. Ryan borrows the term "rear view mirror" from McLuhan, who argued that society perceived historical and technological change through a "rear-view mirror" perspective. In his popular book *The Medium is the Massage*, McLuhan explained that "[w]hen faced with a totally new situation, we tend always to attach ourselves to the objects, to the flavor of the most recent past. We look at the present through a rear-view mirror. We march backwards into the future." McLuhan and Fiore, *The Medium is the Massage*, pp. 74-5.

like building a healthy dinosaur."[97] For Ryan, Gillette, Shamberg, and many of their contemporaries, television had reached the end of its evolutionary trajectory. Better now, videomakers contended, for the movement to dedicate itself to establishing new channels of communication than to labor futilely to repair a commercial broadcasting system condemned to obsolescence by its centralized, top-down infrastructure.

In the meantime, rather than attempt to rescue or repair this obsolete system, video artists and activists perpetrated spectacular acts of symbolic violence against it. From artist Nam June Paik's "prepared" television sets, which employed magnets to warp and distort the televisual image, to the photos of television sets that had been smashed with hammers that adorned the pages of magazines like *Radical Software* and books like *Guerilla Television* (1971), video artists, activists, and guerillas took glee in evacuating television of its *software* so as to torture and defile its *hardware*. In their installation pieces, they removed the classic wood-grained set from its privileged place at the center of the "family circle" and filled it with dirt, tossed it in a toilet, detuned it to receive only static, or stacked it on top of other sets in video walls or other profligate displays that attested to the medium's obsolescence.[98]

---

[97] Frank Gillette, "Random Notes on the Special Case or "Loop-De-Loop," *Radical Software* vol. 1 no. 1 (Spring 1970): 6.
[98] Martha Rossler, "Video: Shedding the Utopian Moment," in Doug Hall and Sally Jo Fifer (eds.) *Illuminating Video: An Essential Guide to Video Art* (New York: Aperture, 1991), 45.

Videomakers' responses to the Cartridge-TV systems introduced in the late 1960s and early 1970s were conditioned by their ideological commitments to the self-contained Porta-pak and their impatience with those would-be television reformers concerned more with television's software than its hardware. For the most part, videomakers were not so much opposed to the premise of Cartridge-TV as to that premise's technical implementation in systems like EVR and SelectaVision, both which denied viewers the opportunity to make recordings of their own. In his book *Guerilla Television*, Shamberg translated the acronym EVR to "Extremely Vile Ripoff," and derided CBS's system as an act of "media sodomy" that eliminated all of the advantages of the process-oriented Porta-pak while preserving all the worst aspects of top-down, centralized, and product-oriented media like film and television.[99] Shamberg described EVR as "a technologically reactionary piece of hardware," focusing his critique of CBS's system on the miniaturized film Goldmark had devised for it. He continued:

> Rather than use videotape, which is indigenous to television, CBS chose a film medium because it won't allow you to do your own recording.
>
> That was a deliberate design decision. It was probably motivated by men who think of information as property and thus wanted to minimize

[99] Shamberg, *Guerilla Television*, p. 73.

> copying. The software ramifications are that people can't generate their own information with the system.[100]

Stripped of the ability to record and transmit, and dependent upon commercial producers for software, EVR was a "co-opted" and technologically neutered version of the Porta-pak that denied viewers the opportunities to feed back into America's media systems. As Gillette elaborated in an article entitled "EVR Is EVIL," CBS's Cartridge-TV format was "one-way, centrally controlled, non-interactive." In other words, it was "an *extension* of the CBS network – a tautological tool – not a tool for creating a new variety of network."[101]

Videomakers' wariness about EVR did not stop them from entertaining offers to commit their work to commercial cartridges or cassettes. By 1971, collectives like People's Video Theater, Media Access Center, and The Ultimate Mirror had all licensed their tapes to Avco subsidiary Cartridge Television, Inc. for its new Cartrivision system. Advising videomakers to approach software distributors with caution, Shamberg argued that the incorporation of video into commercial libraries comprised primarily of old films and television shows would shift videomakers' focus from process to product, and thus would be "more a reaffirmation of old media style than a creation of a new one."[102] Shamberg

---

[100] Shamberg, *Guerilla Television*, p. 15.
[101] Frank Gillette, "EVR Is EVIL" *Radical Software* vol. 1 no. 1 (Spring 1970): 4. Emphasis in original.
[102] Michael Shamberg, "This Cassette Thing," *Radical Software* vol. 1 no. 3 (Spring 1971): 13.

explained to readers how the Raindance Corporation, the video cooperative founded by Frank Gillette in 1969, dealt with the "straight" entrepreneurs who approached its members promising distribution deals. "At Raindance we sporadically are gotten in touch with people who tell us: 'I want to get in on this cassette *thing*,'" Shamberg wrote. "When they extend that as their only understanding of portable video, we tell them to fuck-off, in so many words." While conceding that Cartridge-TV could potentially "[f]ulfill a need for people who are pissed off at broadcast TV," Shamberg warned videomakers against collaborating with those for whom the "cassette thing" was first and foremost a commercial venture. In contrast to television critics, who had overlooked their ideological differences with the U.S. networks when appraising their parent companies' Cartridge-TV systems, Shamberg professed an unwillingness to compromise the video counterculture's progressive political agenda and cybernetic worldview in exchange for access to a wider audience.[103] In fact, he actively promoted the idea that such ventures represented attempts on the part of traditional media companies to co-opt the nascent movement. A cartoon appearing in *Guerilla Television* entitled "Cap'n Rip-off" speculated that EVR was corporate America's defensive response to the video counterculture's cybernetic guerilla warfare tactics, and a way of keeping "those media freques from spoil'n everything with their McLuhanesq indiscretions."[104]

---

[103] Shamberg, "This Cassette Thing," p. 13.
[104] ibid., p. 13; Shamberg, *Guerilla Television*, pp. 15, 73. The fact that Holt, Rinehart, and Winston, a CBS subsidiary, had published *Guerilla Television*

Shamberg's hostility towards EVR is emblematic of the fierceness with which countercultural videomakers defended the boundaries they themselves constructed between the Porta-pak and television in this period.[105] Videomakers

---

should dispel any notion that EVR was CBS's response to the video counterculture's cybernetic guerilla attacks on American television. For the most part, the cultural mainstream – including newspaper television critics and the entertainment conglomerates backing the diverse Cartridge-TV systems introduced in this period – paid scant attention to the activities of the video counterculture. Apart from sporadic profiles of high profile video artists or collectives and the occasional review of gallery exhibitions, newspapers and magazines, let alone the national television networks, largely ignored the nascent movement's activities until videomakers began airing their work on public broadcasting stations or cable in the 1970s. Incidentally, despite his obstinate refusal to compromise the video movement's ideology by broadcasting its tapes on television or committing them to pre-recorded cartridges, Shamberg would go on to become a successful producer in Hollywood, with credits including *The Big Chill* and *Pulp Fiction*.

[105] Not all videomakers were as unequivocal as Ryan, Shamberg, and Gillette that TV and VT were fundamentally incompatible with one another. For example, Nam June Paik experimented extensively with the over-the-air transmission of video tape, using emerging distribution techniques like public broadcasting and satellite transmission to reach expanded audiences at home. In essays and interviews, Paik playfully breeched the boundaries contemporaries like Shamberg erected between domestic TV and public VT, and between Cartridge-TV and portable video. Though his video works often had the effect of defamiliarizing television from its typical spaces and rhythms, Paik saw no reason why the reception of video art and activism should be incompatible with television's rituals of regularized domestic viewing. In his contribution to the debut issue of *Radical Software*, Paik dreamed up a daily schedule for a "utopian laser TV station" of 1996, featuring Merce Cunningham hosting a morning gymnastics program, a noon newscast anchored by Charlotte Moorman, and Stan Brakhage hosting the midnight movie. In every respect, Paik's timetable reproduced the conventions of broadcast scheduling, going so far as to mimic the networks' distribution of gendered- programming across the schedule's multiple dayparts. Nam June Paik, "Utopian Laser TV Station," *Radical Software* vol. 1 no. 1 (Spring 1970), 14.

Alongside the cybernetic manifestos of *Radical Software*'s other contributors, Paik's plan for a futuristic video station appears glaring out of place. Betraying none of his contemporaries' anxieties that the over-the-air transmission and domestic reception of works or video art and activism would rob them of their

ideological commitment to the Porta-pak was predicated on their ability to construe video and television as fundamentally antagonistic forces, each of which stood for an incompatible model of communication and governance. Within this schema, video was decentralized, anarchic, two-way, and portable, whereas television was centralized, totalitarian, unidirectional, and firmly anchored to the domestic sphere.[106] Describing the distinction between the two media, Paul Ryan

---

crucial context as VT, and *not* TV, Paik outlined a solution to the "TV Problem" that, at least on the surface, appeared to share more in common with the agendas of highbrow cultural intermediaries than it did with some of his fellow videomakers. Three years later, when the arrival of cassette- and cartridge-based video systems appeared imminent, Paik forecast that:

> [t]he cassette will diversify the video culture. … [I]n the future world, you will have cable TV, video cassettes, and picture phones. You will also have video tranquilizers, like my Synthesizer Machine. If the video structure is diversified, one of the first results will be less pollution. It will be a major solution to the ecology crisis. Why move, why drive somewhere in your car, if you can do everything right at home?

Nam June Paik, "Nam June Paik: The Cathode-Ray Canvas," in Douglas Davis (ed.) *Art and the Future: A History/Prophecy of the Collaboration between Science, Technology, and Art* (New York: Praeger, 1973), 150. Quoted in David Joselit, *Feedback: Television Against Democracy* (Cambridge: MIT University Press, 2007), 46.

[106] Countercultural videomakers' critiques of television frequently rehearsed public/private and exterior/interior dichotomies, invoking television's negative associations with femininity, domesticity, and passivity in support of videomakers' protestations of video's ontological singularity and importance as an instrument of participatory democracy. In his contribution to the 1972 Open Circuits Conference on the Future of Television, Gregory Battcock articulated the video counterculture's antipathy towards domesticity, arguing that television's long imprisonment within domestic interiors had stifled its development as a medium. Tethered to architecture, its "mother form," television had been prevented from realizing its ontological destiny of evolving "into the realm of the portable." Gregory Battcock, "The Sociology of the Set," in Douglas David and Allison Simmons (eds), *The New Television: A Public/Private Art* (Cambridge: MIT Press, 1977), 18. Spigel discusses this tendency in a footnote to her essay

gave the video movement one of its most oft-repeated catch-phrases when he argued that "VT [videotape] is not TV."[107] At a moment when video pioneers were fighting to justify their medium's relevance to curators, critics, and above all the boards of philanthropic foundations, the video counterculture's own survival as a viable cultural movement depended on its members' abilities to differentiate their social and aesthetic experiments from the pre-recorded cartridges and cassettes peddled by electronics manufacturers and communications conglomerates. The home Cartridge-TV formats developed in the 1960s and early 1970s were an affront to artists' and activists' visions of what video was and could be; as embodiments of video's inevitable domestication and the resiliency of the hegemony of America's established communications systems, they contested the video counterculture's self-proclaimed status as a vital social and aesthetic movement and cast doubt on videomakers' abilities to deliver on the communications revolution their tapes and manifestos promised. Home video portended the containment of the Porta-pak's potential to negate cultural and

---

"Portable TV: Studies in Domestic Space Travel." As she notes, "Battcock's historical theory of art is not-too-subtly based on the idea that art is that which sheds itself of domesticity, and he sees portability as exactly that which makes this move away from home possible." *Welcome to the Dreamhouse: Popular Media and Postwar Suburbia* (Durham: Duke University Press, 2001), 99 n.46. See also chapter 4 below.

[107] Paul Ryan, "Cable Television: The Raw and the Overcooked," *Radical Software* vol. 1 no. 1 (Spring 1970): 12.

commercial establishments, and the domestication and neutralization of the incipient video countercultures' defiant radicalism.[108]

The Cartridge-TV Bust

In 1971, the same year Shamberg published *Guerilla Television* and its anti-EVR comic strip, CBS exited the EVR consortium after years of mounting losses. For a short time, its partners, led by Motorola, soldiered on, before they too reached the conclusion that technological hurdles rendered EVR unpractical at any cost. Within a year, RCA announced that it was halting the development of its SelectaVision system, having made little progress on its efforts to encode holographic video on vinyl tape since that system's 1969 public debut. In subsequent years, RCA would unsuccessfully attempt to commercialize a series of magnetic tape and pre-recorded video formats, each of which also bore the SelectaVision brand name.[109] In the meantime, other Cartridge-TV systems came and went. Ampex's ballyhooed Instavideo, a magnetic tape system that combined the portability and recording functions of Sony's Porta-paks with the cartridge systems' ease of loading, withered on the vine.[110] In 1972, the

---

[108] Rossler makes a similar argument regarding the threat posed by video's "museumization," or assimilation into the gallery art world. See Martha Rossler, "Video: Shedding the Utopian Moment," p. 44.

[109] For more on RCA's unsuccessful attempts to commercialize the video systems its engineers developed in-house, see Graham, *RCA and the VideoDisc.*

[110] Richard S. Rosenbloom and Karen J. Freeze, "Ampex Corporation and Video Innovation," in Richard S. Rosenbloom (ed.) *Research on Technological*

aforementioned Cartrivision went on sale in Sears stores. Although equipped to record programs off air and play back selections from a library of over one hundred software titles, Cartrivision lasted barely two years on the market before poor sales drove Cartridge Television, Inc. into receivership. In contrast to the high profile failures of the Cartridge-TV systems, Porta-pak sales remained steady into the 1970s. Though never sold in great numbers for use in the home, by 1972 Sony alone was selling 1,000 of its portable half-inch video recorders each month in the United States.[111] In the decade prior to the advent of the VCR, the Porta-pak came closest to establishing a commercially-successful standard for consumer video. In fact, Porta-paks would continue to roll off of the production lines of Sony, JVC, Panasonic, and other Japanese electronics manufacturers until 1976, when they were superceded by Sony's Betamax and JVC's VHS VCR formats.

In light of the demise of these well-capitalized and well-publicized Cartridge-TV formats, the Porta-pak's endurance confirmed for members of the video counterculture the cybernetic worldview underlying their critique of American television. EVR, SelectaVision, and the other failed Cartridge-TV formats were more than just "casualties of corporate egotism where prototypes and public relations were supposed to convince stockholders that their companies were right in there with the newest consumer technology when, in

---

Innovation, Management and Policy: Volume 2 – 1985 (Greenwich, CT: JAL Press, 1995), 113-186.

[111] Eric Siegel, "A Radical Software State-of-the-Art Report," *Radical Software* vol. 1 no. 5 (Spring 1972): 109.

fact, they were unable to deliver."[112] Their failures, whether in the laboratory or in the marketplace, illustrated the futility of corporate America's attempts to sustain an obsolete and anti-democratic broadcast paradigm. But while videomakers waxed triumphant upon the demise of EVR and other Cartridge-TV formats, cultural intermediaries had far less to say about these systems' passings. After years of false starts and failures, news of the impending Cartridge-TV revolution disappeared from the arts and culture sections of leading newspapers and magazines as quickly as it had appeared only years before. In 1967, EVR's debut had captured front page headlines in the *New York Times*, and was described by influential tastemakers as an important milestone in the history of American culture. Five years later, Gould reported on CBS's withdrawal from the EVR consortium in an article that emphasized CBS's $20 million write-off over the so-called "minority viewer's" loss of a powerful narrowcasting medium.[113] Once symbols of television's future, by the time of EVR's demise Cartridge-TV systems had become embarrassing reminders of U.S. consumer electronics manufacturers' inability to keep pace with their Japanese rivals. Less obviously, they also stood as insistent reminders the hubris of those cultural elites who had suggested that, with their expert guidance, technological innovations could be harnessed to fix the "TV Problem." Following the EVR debacle, newspaper

---

[112] Siegel. "A Radical Software State-of-the-Art Report," p. 109.
[113] Jack Gould, "C.B.S. to Halt Manufacturing of Electronic Video Recorder," *New York Times* (December 22, 1971): 70.

television critics showed a noticeable reluctance to again step into the role of technological soothsayer.

The size of the gap between critics' conceptions of video's meanings and uses and consumers' attitudes towards television was hammered home by Sony's 1975 introduction of the Betamax VCR. In many respects, the Betamax resembled the television tape recorders excoriated by television critics in the 1960s in that it was marketed as a recording medium, and had no software of its own, so to speak. As had been the case with the Videocorder, Sony did not assemble a library of original pre-recorded programming for the Betamax. It instead publicized its VCR's ability to *time shift*, or record television broadcasts off the air for more convenient playback. When Sony invited consumers in its advertisements to use the Betamax VCR to "Watch Whatever Whenever," it espoused a rhetoric of cultural populism as incompatible with the selective and purposeful viewing prescribed by critics. One 1976 print advertisement assured consumers that with a Betamax, "[y]ou don't have to miss *Kojak* because you're watching *Columbo*."[114] In promoting the Betamax, Sony presented home video recording as an everyday practice suitable for everyday programs. Aside from its obvious emphasis on empowering viewers to play an active role in program selection, Sony's ad campaign had another important message: that after years of condemnation, it was once again socially acceptable to love television.

---

[114] This advertisement is said to have motivated Universal, the producer of both *Kojak* and *Columbo*, to file a lawsuit against Sony alleging that the Betamax violated the terms of the 1976 Copyright Act. For more on the Betamax lawsuit, see Lardner, *Fast Forward.*

Advertisements for the Betamax never insinuated that the VCR would rehabilitate or reform television; nor, for that matter, did Sony portray its product as an alternative to a medium in crisis. On the contrary, the Betamax would provide consumers with new opportunities to savor and preserve television's most ordinary pleasures.

When enterprising individuals finally began to secure pre-recorded programming for the Betamax and its primary competitor, VHS, they swiftly bypassed the opera house, lecture hall, and legitimate stage in favor of Hollywood films and television reruns.[115] Still, despite the mass appeal of its software, video's associations with connoisseurship and good taste persisted after the demise of the last Cartridge-TV system. One of the earliest efforts to create a library of pre-recorded cassettes for the Betamax was Time-Life's 1977 Great Programs series. Collecting eight "award-winning" programs recognized for their excellence by members of Time-Life's editorial board, the Great Programs series was promoted as a timeless educational resource that would "grace the shelves of the most aristocratic library."[116] Titles in the series included *Ten Who Dared* (1960), *Alistair Cooke's America* (1973), and *The Fight Against Slavery* (1975), each of which was individually packaged in a gold-embossed vinyl case designed to emulate leather-bound hardcover books. Though the Great

---

[115] For more on the genesis of the retail and rental markets for pre-recorded videocassettes, see Wasser, *Veni, Vidi, Video: The Hollywood Empire and the VCR* (Austin: University of Texas Press, 2001) and Greenberg, *From Betamax to Blockbuster*.

[116] Time-Life, Inc., "Great Programs Series" (promotional video) (1977). URL (Accessed August 3, 2007): http://www.youtube.com/watch?v=mPvqU-dzQpY.

Programs series appeared to realize *Time*'s 1963 prediction that each home would one day contain its own "Golden Treasury" of episodes of *Dr. Kildare*, conspicuously absent from Time-Life's list of the finest television programs of the past decade were any representatives of television's consummate form: the primetime series. Instead, it was weighted heavily towards one-off specials and mini-series, many of which were BBC productions initially aired in the U.S. on PBS. According to Sony's promotional campaign, the Betamax VCR made it possible for home viewers to watch whatever they wanted, whenever they wanted. However, when it came to selecting a canon of outstanding programs worthy of place on the mantelpiece of the most discriminating viewers, the editors of Time-Life continued to draw sharp dichotomies between the exceptional and enriching programs aired on PBS and the networks' nightly fare.

As VCRs became more and more affordable, and the market for pre-recorded movies and television shows grew to become a multi-billion dollar industry, maintaining video's associations with educational or artistic programming and purposeful and discriminating viewing would require considerable effort on the part of software distributors like Time-Life. By the 1980s, it was more common to see video hardware compared to a work of art than video software. A 1984 print advertisement for Sanyo's Betamax video recorders is typical in this respect. Against a minimalist background, the advertisement depicts a stack of hardbound books with titles like *Modern Art Today*, *Artists of Our Age*, *Design Forum*, *Music and Art Today,* and *Design*

Annual '84. Topping the books is a Sanyo Betamax VCR-3. Beneath the photo, the advertisement's copy calls attention to the Sanyo's streamlined design and advanced functionality. Nearly two decades after RCA and CBS had promised to stock their software libraries with the finest concerts and plays, this advertisement suggested that it was the VCR's sleek industrial design and advanced features, and not the programs it was used to play, that warranted a place of pride on the family's mantle or bookshelf. Of course, the VCR was far from the first consumer electronics product to be compared by marketers to a work of art.[117] Still, in light of the aesthetic considerations that animated discussions about home video during its first decade, this shift – from marketing materials which promoted the merits of a video system's software to ones that foregrounded the aesthetic qualities of the video player itself – constituted a significant milestone in video's history as a cultural object. As RCA had cynically recognized as early as 1967, video would continue to signify "culture in the home, whether or not one watches cultural selections."[118] Only now, electronics manufacturers were no longer obligated to court elite tastemakers in order to secure video's legitimacy. Nor, for that matter, was this legitimacy contingent upon the premise that video presented a cultured alternative to standard broadcast fare. By the 1980s, video's associations with connoisseurship and discrimination had been divorced from the television taste hierarchies associated

---

[117] See, for example, the discussion of television tuning devices above in chapter 1.

[118] Stanley and Tan, "Video Player Systems, Part II," pp. 3, 5.

with 1960s debates over the "TV Problem," and now rested solely on the video player's objective qualities as a high-end media appliance.

Conclusion

Today, products like the Ampex Signature V, EVR, SelectaVision, and Cartrivision are better known for their failures to live up to the grand expectations that accompanied their introduction than for their impact on American television. But while these devices have long since faded from the memories of all but the most dedicated collectors of video ephemera, the debates they inspired during the 1960s and early 1970s rage on around the new television technologies of the twenty-first century. The Internet video sharing site YouTube.com is best known as a repository for millions of short clips featuring cute kitty cats, preening webcam girls, and teenagers acting out their favorite Star Wars scenes. Yet in addition to a seemingly inexhaustible trove of amateur creations, the site also hosts a far lesser number of videos of symphonies, arias, and modern dance performances. Writing in the *New York Times*, theater critic Charles Isherwood was pleased to discover that YouTube "offers a dizzying array of material for addicts of what, for lack of more egalitarian term, I'll call high culture. Or high-ish culture: I'm talking not just about opera and dance, but also that often derided but enduring enterprise called the Broadway musical."[119] Isherwood's report on the status of "high-ish" culture on YouTube evokes 1960s cultural intermediaries'

[119] Charles Isherwood, "YouTube's Greatest Hits," *New York Times* (November 16, 2006): E1.

similarly pleased reactions to the news that the RCA and CBS planned to commission leading composers and dance companies to produce software for their home video systems. Quick to concede that streaming videos of dance, opera, and classical music performances would be of little interest to the average web surfer, Isherwood nonetheless expressed the hope that YouTube's ability to micro-cast to audiences numbering as low as the single digits meant that "high-ish" culture would find a home on the Internet.

As was the case with his predecessors, Isherwood's appraisal of this new video medium was filtered through his concerns about the effects it would have on classical conceptions of good taste. He reminded his readers (and himself) that despite the wealth of "high-ish culture" that could be found on-line, "[f]erreting around cyberspace in YouTube can be a bit like going down the rabbit hole, entering a strange, oddly seductive media universe in which normal standards you'd bring to the consumption of culture don't seem to apply."[120] Deep within the depths of this rabbit hole, tastemakers like Isherwood have their work cut out for them. As more and more traditional intermediaries migrate online, they enter into an increasingly crowded field where their credentials and bylines carry less and less clout, and are easily drowned out by the "popular votes" tallied by search engines like Google, social bookmarking websites like del.icio.us, or YouTube's "most viewed" video lists. The results turned up by YouTube searches, for example, mix the amateur with the virtuoso with little regard for

[120] ibid., p. E1.

established cultural hierarchies or forms of critical authority. A search of the website's archives for "opera," for example, brings up as its number one hit a clip of an aria-singing cell phone salesman from the reality-TV program *Britain's Got Talent* (ITV [U.K.], 2007), with performances by Beverly Sills, Maria Callas, Angela Gheorghiu, and other renowned divas coming up much farther down the list.

When it comes to filtering the Internet's seemingly boundless torrents of digital media, the role of cultural intermediary increasingly falls not to critics like Isherwood, but instead to amateurs, or, even more frequently, to the software algorithms powering search engines like Google.com. As a consequence, cultural intermediaries have never been more ubiquitous, necessary, and irrelevant. At a moment when literally anyone can, in a matter of minutes, launch a blog and "publish" their opinions on a book, film, television program, or song, software automates and streamlines processes once carried out by the esteemed cultural critics of the *New York Times* and *Saturday Review*. Unburdened by their human predecessors' obligations to the canon, websites like Google, Digg.com, and YouTube purport to offer nothing more than an unmediated and disinterested index of the popularity of the websites, news stories, or video files they respectively aggregate and index. This is precisely the sort of "cultural democracy" most feared by 1960s cultural intermediaries: one in which a new technology of distribution aggressively blurs the distinction between

professionals and amateurs, creators and consumers, and critics and their constituencies.

If the social networking sites, wikis, blogs, and user generated content showcases known collectively as Web2.0 have established new categories of cultural intermediaries, they have also established a home for the Porta-pak experiments of the video counterculture. A YouTube search for “video art” turns up pieces by Paik, William Wegman, TVTV, Ant Farm, and others Porta-pak pioneers. Viewed in web browser window crowded with advertisements for Verizon Wireless and the latest Hollywood blockbuster, Porta-pak videos are removed from their context as radical alternatives to commercial media. In their new home on the web, shared keywords and metadata “tags” establish unexpected links between works of video art and activism and mundane home movies. For instance, on YouTube, a search for *Media Burn*, in which members of the video collective Ant Farm drove a Cadillac through a wall of burning television monitors, turns up both a copy of that video and a recording of young girl playing with a toy ant farm in the kitchen of her family’s middle-class suburban home. Short of robbing Porta-pak videos of their relevance or potential for critical negation, the connections a site like YouTube establishes between the radical and the banal can short circuit the ideological dichotomies that in the 1960s and 1970s prevented videomakers and television critics from recognizing their common interests in transforming television. On YouTube, “high-ish” culture mingles with kitsch, and activism with commercialism, without any sense of self-

consciousness. In all likelihood, the prospect of this commixture would have horrified critics, and struck the most committed members of the counterculture as an affront to their efforts to establish alternative communications systems free from the influences of commercial media. Still, its impossible not to wonder what kind of effects this degree of textual and contextual promiscuity might have had on their respective efforts to use video to transform television.

Three
Rationalizing Television

In outlining their theory of remediation, Bolter and Grusin point out that amongst this word's many uses is "as a euphemism for the task of bringing lagging students up to an expected level of performance."[1] The utopian fervor surrounding the digital television technologies launched in the 1990s exemplified this definition of remediation, and popularizing the notion that new media would transform the television receiver, a device that MIT Media Lab guru Nicholas Negroponte disparaged as "per cubic inch … the dumbest appliance in your home," into an "intelligent" electronic gateway to the much-ballyhooed "information superhighway."[2] "For 50 years, the experience of watching television has changed little," a 2000 article in *US News & World Report* on new television technologies explained. "Yes, remote control, cable, and VCRs have provided more convenience and choices. But TV viewing remains a passive, lean-back

---

[1] Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 1999), 59.
[2] Nicholas Negroponte, *Being Digital* (New York: Vintage, 1995), 19, 47.

activity, just as it was when Milton Berle ruled the airwaves. All that's about to change. … In short, the boob tube is getting smart."[3]

When prior generations of television reformers had expressed their wishes to see television become more "intelligent," their point of reference typically had been the medium's programming. Television was "dumb" not because it was unsophisticated from a technical standpoint, but rather because sitcoms and soap operas outnumbered current affairs shows, original dramas, and educational broadcasts. Thirty years prior, this very mindset had moved television critics to endorse Cartridge-TV systems, on the understanding that technologies like EVR and SelectaVision would deliver more uplifting or enriching programming. In the 1990s, by contrast, reformers spoke of television's intelligence (or, more accurately, lack thereof) as residing in the receiver, and not the programming it was used to watch.[4] Television was, in the conservative

---

[3] Dori Jones Yang, "A Boob Tube with Brains" *US News & World Report* vol. 128 no. 10 (March 13, 2000): 42.

[4] James Hay locates the beginnings of this trend in the early 1980s, when consumer electronics manufacturers had begun to use allusions to computers as a way of stressing the "intelligence" of their products relative to prior models and competitors' offerings. Hay links this practice to "an emerging, rehabilitated identity for television (since the 1950s widely regarded as the antonym of intelligence)." Hay, "Unaided Virtues: The (Neo-) Liberalization of the Domestic Sphere" *Television and New Media* vol. 1 no. 1 (February 2000): 61. However, as I have demonstrated in chapter 1, as early as the 1950s television set manufacturers were already pursuing this very strategy, using allusions to space-age technologies of remote control and artificial intelligence to rehabilitate television's image and to position new devices as cutting-edge "smart" technologies. That said, reformers in this period still placed a higher priority on remediating television's programming than they did on its technologies. For instance, during his long campaign in support of the Phonevision pay-TV system, Zenith's Commander Eugene McDonald repeatedly stressed that television's

cyber-pundit George Gilder's words, a "dumb terminal," a "stripped-down box with nothing inside it but a few vacuum tubes and copper wires," necessitating that "[n]early all of the system's intelligence … would have to be located at the broadcasting center." Invoking the technological determinist legacy of Marshall McLuhan, Gilder outlined his own theory of television's retarded evolution, in which the finite capacities of vacuum tubes and the radio spectrum were to blame for television's problems, and America's problems as well. Gilder wrote:

> These technologies dictated that television would be a top-down system – in electronic terms, a "master-slave" architecture. A few broadcast receivers would originate programs for millions of passive receivers, or "dumb terminals." Spectrum scarcity would force TV to adopt a centralized system, limited to relative few channels, with no two-way communication.[5]

For Gilder, the consequences of these "dumb" technologies' limitations filtered down to the equally "dumb" practices in which television viewers engaged in front of their sets. "TV watchers use their machines to lull themselves and their children into a stupor," he explained. By contrast, "PC users exploit their machines to become yet richer and smarter and more productive" (214-5). The "smartest" thing America could, Gilder argued, was to consign television to

---

programs lay not in its hardware, but rather in an economic model that limited the quality and variety of broadcast programming.

[5] George Gilder, *Life After Television: The Coming Transformation of Media and American Life* (Revised Edition) (New York: Norton, 1994), 40-42.

history's trash heap, replacing the outmoded receiver with a new hybrid machine that combined the capacities of the telephone and computer.

As the historian William Boddy has noted, a number of commentators (Gilder amongst them) forecast in the 1990s that computers would bring about television's demise. Other more sanguine voices suggested digital media offered television a new beginning, and an opportunity to evolve into the medium its critics and supporters had long hoped it would one day become.[6] For those willing to grant television a second chance, the question of *how* to watch television was of the utmost concern. The emphasis these commentators placed on reception, and the distinctions they drew between "dumb" and "smart" technologies, between slouching back and leaning forward, between passivity and interactivity, and between lulling oneself into a stupor and "becoming yet richer and smarter and more productive," put the onus to repair television squarely on the shoulders of viewers. Simply put, making television "smart" was these accounts contingent upon viewers who were (both intellectually and technologically) equipped to make "smart" decisions about how to make the most of their viewing. According to Philip Swann, the author of a monograph on "The Future of Interactive Television," viewers would first need to be put through a remedial program before they would be ready to carry out this responsibility. "Many Americans still think of television as a passive experience," Swann

---

[6] William Boddy, *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States* (New York: Oxford University Press, 2004), 71.

explained, “and they will have to be educated on the benefits of interacting with their screens.”[7] Numerous parties volunteered themselves for the task of remediating television’s audiences, including not only the manufacturers of digital television technologies, but also policymakers, parenting experts, self-help gurus, management consultants, and broadcasters. In carrying out the audience’s re-education, both the proponents and opponents of new television technologies encouraged viewers to take responsibility for television, and to regard everyday decisions about personal consumption as having a direct bearing on television’s prospects for survival or salvation in the digital age.

This chapter considers the conditions under which television viewers came to assume an enlarged role in – and even responsibility for – using new technologies to repair television during the 1990s. It focuses in particular on one technology, the digital video recorder (DVR), and shows how in discussions of DVRs this responsibility to repair television is incorporated into a larger set of obligations shouldered by television viewers in their capacities as citizens, consumers, family members, and workers. As a technology for suturing together these obligations, DVRs participate in a process whereby the expectations placed on media audiences in the digital age are affirmed within the context of familiar ideals of freedom of choice, self-determination, and personal accountability. Within this context, TV repair starts and ends with the individual

[7] Phillip Swann, *TVdotCom: The Future of Interactive Television* (New York: TV Books, 2000), 16.

viewer, and is contingent upon and productive of his or her own "empowerment" in all of these various capacities.

"God's Machine": Television, New Technology, and Advanced Liberalism

Developed in parallel by Silicon Valley startups ReplayTV and TiVo, DVRs were from the moment of their introduction in 1999 promoted to the public as "smart VCRs" that granted television viewers new forms of control over their receivers and over the programming television delivered into their homes.[8] Like its predecessor the VCR, the DVR is a technology that viewers can use to timeshift, or record television broadcasts for later playback. But in contrast to VCRs, which transcribe recordings onto spools of magnetic tape housed in removable cassettes, DVRs record broadcasts digitally to internal hard drives. An additional feature of DVRs is that they may be connected via telephone lines to central computer databases, facilitating exchanges of information between television viewers, broadcasters, and sponsors. Connecting DVRs to these databases makes it possible for viewers to search television listings for their favorite programs, performers, or genres, much in the same way they do the Internet,

---

[8] See, for instance, John Markoff, "Netscape Pioneer to Invest in Smart VCR" *New York Times* (November 9, 1998): C2; Glen Dickson, "Forrester Foresees 'Smart TV'" *Broadcasting & Cable* vol. 130 no. 30 (Jul 17, 2000): 10; Christine Y. Chen, "TiVo Is Smart TV (But Hey, Brains Aren't Everything.)" *Fortune* vol. 143 no. 6 (March 19, 2001): 124; John Gartner, "Kiss Your VCR Goodbye" URL (Accessed March 28, 2003): http://www.wired.com/news/technology/0,1282,18784,00.html; David Pogue, "TiVo Rivals Add DVD To the Mix" *New York Times* (November 14, 2002): G1; "You've Got a Life, TiVo Gets It" TiVo Brochure (Alviso, CA, 2004).

and to receive programming suggestions based on the recommendations of collaborative filtering algorithms that cross-reference their viewing histories against those of millions of other DVR owners. Promotional materials and press coverage have seized on this latter capacity, lavishing attention on the "artificial intelligence" of DVRs equipped to "learn" about their owners' preferences, and then find and filter programming on their owners' behalves, growing smarter all the while as they respond to feedback keyed in via remote control.[9]

Aside from these "smart" filtering features, the real intelligence of the DVR lies in its ability to make to television more *productive*, thereby realizing mutually reinforcing ambitions of the medium's critics and sponsors. Since the 1940s, social critics, leisure reformers, and pundits have accused television of being incompatible with the achievement-oriented conception of leisure engendered by the work ethic of industrial capitalism, and of squandering or even "killing" the

---

[9] See, for instance, Damien Cave, "When Big Brother knows you watch "Big Brother" URL (Accessed March 13, 2004): http://archive.salon.com/tech/view/2000/09/11/tivo/; Jeffrey Zaslow, "If TiVo Thinks You Are Gay, Here's How To Set It Straight --- Amazon.com Knows You, Too, Based on What You Buy; Why All the Cartoons?" *Wall Street Journal* (November 26, 2002): A1. For a technical explanation of TiVo's artificial intelligence feature, see Kamal Ali and Wijnand van Stam, "TiVo: Making Show Recommendations Using a Distributed Collaborative Filtering Architecture," Proceedings of the 2004 ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (Seattle, WA, August 22-25, 2004): 3. While some of this media coverage was salutary, a great deal of it expressed concerns that DVRs might become *too* smart, evoking distopian nightmares of all-seeing, all-knowing technologies gone awry. See Phil Rosenthal, "TiVo users, beware: Big Brother's watching what you're watching," *Chicago Sun-Times* (February 5, 2004): 41; Craig Bicknell, "The TV That Watches Back," *Wired* (on-line edition) (December 18, 1998), URL (accessed March 18, 2005): http://www.wired.com/news/business/0,1367,16925,00.html.

precious and hard-won free time allocated to the middle class under the terms of the industrial economy's social contract.[10] Indeed, one of the most enduring critiques of television has been that it is a "waste of time" that could otherwise be spent on any number of more productive activities, including hobbies, personal betterment, exercise, or participation in civic affairs.[11] Within the television industry, wasted time has a different meaning altogether, and refers not to the productivity of television's audiences, but rather to the failure of advertisements to reach viewers of a specific demographic profile.[12] DVRs propose to eliminate this form of "waste" from television by rationalizing the capture and delivery of demographic information. The same network connection that enable DVRs to access databases of programming schedules and recommendations also allow broadcasters and their sponsors to access far more accurate and detailed accounts of their audiences' viewing than are available with traditional television ratings. These two-way information flows enable viewers to personalize their viewing experiences, and sponsors to personalize the address of their

---

[10] See, for instance, C. Wright Mills, *White Collar: The American Middle Classes* (New York: Oxford University Press, 1977); Paul Goodman, "Leisure: Purposeful or Purposeless?" in Pauline Madow (ed.) *Recreation in America* (New York: H.W. Wilson and Co., 1965); Harold Mehling, *The Great Time-Killer* (Cleveland: The World Publishing Company, 1962), 12-13. For more on the ideology of "productive leisure," see Steven Gelber, *Hobbies: Leisure and the Culture of Work in America* (New York: Columbia University Press, 1999).

[11] Cecilia Tichi surveys critiques of television on these grounds in *Electronic Hearth: Creating An American Television Culture* (New York: Oxford University Press, 1991), 84-103.

[12] See Sut Jhally and Bill Livant, "Watching as Working: The Valorization of Audience Consciousness" *Journal of Communication* vol. 36 no. 3 (Summer 1986): 133.

advertisements to sub-segments of the audience, or even to specific individuals, thereby reducing the money they "waste" when their commercials are aired to the "wrong" viewers.

Mark Andrejevic has noted the complimentarity of these rationalities, arguing that both are products of the transactions that digital technologies like DVRs broker between media audiences and institutions. In these transactions, consumers exchange money and information about their consumption histories for access to tools or services that will purportedly enable them to more efficiently, and therefore more pleasurably, consume media texts. To media institutions the promoters of digital technologies promise new tools for gauging the productivity of their advertising campaigns (e.g., whether or not commercial messages are reaching their intended audiences) and new methods of targeted advertising (for example, ads can be customized and delivered directly to the set-top boxes of individual viewers).[13] As the middlemen in these transactions, the providers of interactive media services are by no means neutral third parties.[14] Instead, they occupy a location at the heart of the "consumption junction" that puts them in a position of relative power with respect to both of the constituencies

---

[13] Mark Andrejevic, "The Work of Being Watched: Interactive Media and the Exploitation of Self-Disclosure," *Critical Studies in Media Communication* vol. 19 no. 2 (June 2002): 230-248.

[14] William Uricchio addresses the growing sway of these intermediaries in "Television's Next Generation: Technology/Interface Culture/Flow" in Lynn Spigel and Jan Olsson (eds.) *Television After TV: Essays on a Medium in Transition* (Durham, NC: Duke University Press, 2004), 174-7.

they "serve."[15] As they match audiences to programming, and advertisers to audiences, they participate in – and exert a considerable amount of influence over – processes by which people, programs, and material goods are categorized, aggregated, and exchanged within television's audience marketplace.

While all three of the parties that participate in these transactions at least theoretically stand to benefit from the rationalities they produce, consumers come away from these exchanges bearing an additional set of responsibilities. As Andrejevic notes, consumers must "work" for the conveniences, efficiencies, and pleasures promised to them by the providers of interactive media services. This work takes many forms, including most notably the labor viewers perform as they disclose personal information about themselves and their consumption activities. Self-disclosure is never a passive act of submission or capitulation, Andrejevic contends, but rather is a form of labor in which consumers perform tasks traditionally carried out by market research firms, audience measurement companies, network research departments, and producers themselves. This labor may take on the sheen of creative expression, as is the case with social networking websites like Facebook.com or MySpace.com, which engage their

---

[15] Ruth Schwartz Cowan introduces the concept of "the consumption junction" as "the place and time at which the consumer makes choices between competing technologies" in her essay "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology," in Wiebe Bijker, Thomas Hughes, and Trevor Pinch (eds.) *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: MIT University Press, 1987), 261-280.

members to share information about their favorite media texts, brands, products, and so on by creating personal pages or profiles that ostensibly reflect their "true" selves. Alternatively, it may more closely resemble other forms of computer-mediated work, as is the case with DVRs. In order to take advantage of DVRs' filtering capabilities, television viewers must "program" their devices to recognize their tastes by rating programs using their remote controls or by visiting special websites. In all of its many incarnations, the work of self-disclosure entails interacting with digital media devices to produce and refine detailed and dynamic personal data streams, which in turn may be sold to producers and used to rationalize the circulation of their products.[16] Via these transactions, the

---

[16] Mark Andrejevic, "Watching Television Without Pity: The Productivity of Online Fans" *Television and New Media* vol. 9 no. 1 (January 2008): 30; Andrejevic, "The Work of Being Watched," p. 243.

In a now-canonical 1978 article, Dallas Smythe argued that the very act of watching television is itself a form of labor in many ways integral to the functioning of advanced capitalism. This work encompasses two dimensions: in the first, viewers "perform essential marketing functions for the producers of consumers' goods"; in the second, they "work at the production and reproduction of labour power." As they perform these and other forms of work-leisure, audience members participate in the transformation of their own free time, time ostensibly spent "off the clock," into a new category of "off-the-job work time," and their consumption into a form of "homework" which, insofar as it regenerates their labor power, has a critical bearing on the worker's social and professional performance. Dallas Smythe, "Communication: The Blindspot of Western Marxism," in *Canadian Journal of Political & Social Theory* vol. 2 no. 2 (1978): 123. Recent critical studies of media audiences have updated these descriptions of the "work" involved in consuming media to encompass contemporary practices, including participating in on-line fan communities and using interactive digital television services. For example, see Shawn Shimpach, "Working Watching: The Creative and Cultural Labor of the Media Audience," *Social Semiotics* vol. 15 no. 3 (December 2005); Andrejevic, "The Work of Being Watched"; and Frederick Wasser "Media is Driving Work," *Journal of Media and*

rationalization of the marketplace comes to coincide with the rationalization of the self, as consumers use digital technologies to eliminate inefficiencies from the production, circulation, and consumption of consumer goods, media texts, and demographic data.

Along with the work of producing this data, another "job" that gets offloaded to consumers in the "digital age" is the job of repairing television. The outsourcing of this task to viewers is consistent with the neoliberal ideals which, as Andrejevic points out, "interactive" digital media exemplify and enact.[17] "Neoliberalism," or "advanced liberalism," is a variant of liberal political and economic thought that distinguishes itself largely through its commitment to rationalizing governance via processes of privatization and deregulation.[18] As a component of these processes, advanced liberalism engenders a social ideal in which, under the guise of personal empowerment, self-reliance, and choice, citizen-consumers are invited to assume accountability for protecting and improving their own and their families' welfare by entering into relationships with the state, with their fellow citizens, and even themselves that are modeled after

---

Culture vol. 4 no. 5 (2001) URL (accessed March 31, 2007): http://www.media-culture.org.au/0111/Wasser.php.

[17] Andrejevic, "Watching Television Without Pity," p. 30.

[18] Hay, "Unaided Virtues," p. 54. Nikolas Rose identifies advanced liberalism as a bipartisan response to and extension of the neoliberal movement that emerged on the right in the United States and United Kingdom in the 1970s. Initially, progressives in both countries were adamant in their opposition to the neoliberal agenda. However, over time, Rose notes, the left, too, began to embrace and build on many of the precepts of neoliberalism. Following Rose, I use the term "advanced liberalism" to describe this "new way of thinking." See Nikolas Rose, *Powers of Freedom: Reframing Political Thought* (New York: Cambridge University Press, 1999), 139-40.

the contractual relations of the marketplace.[19] The remedial discourses surrounding digital television technologies build on and extend upon these ideals, addressing television viewers as responsible individuals, and encouraging them to use technologies like DVRs to watch television more *responsibly*.

Within the context of these discourses, this responsibility is construed as having two dimensions. First, and most explicitly, it encompasses the sense of responsibility viewers are encouraged to feel for rationalizing their own and their family members' leisure, in the understanding that by becoming more prudent and efficient consumers of television and the goods its advertises they stand to activate and more fully profit from their rights as citizens and consumers. Second, it encompasses a responsibility to take an active role in television's rehabilitation, mainly by using their purchasing power to speed along its transformation from a passive, centralized, standardized, and one-way broadcast medium into a "smart" computer technology responsive to the tastes and needs of its audiences. Enacting this second responsibility entails upgrading "outmoded" hardware – for instance, trading in an analog "standard-definition" cathode ray receiver for a widescreen digital high-definition monitor – and subscribing to new "interactive" services, including digital cable, video-on-demand, and DVR services. TV repair is in this respect made out to be contingent upon the mobilization of consumers to clear the way for technological

[19] ibid., pp. 160-5.

progress by participating in the marketplace's rituals of planned obsolescence and premature product replacement.

Rationalizing Family Viewing

One context in which these two responsibilities intersect is in discussions of DVRs and family television viewing. Electronics manufacturers and cable and satellite providers promote DVRs as tools for protecting children from exposure to televised sex and violence. The DVR manufacturer TiVo has incorporated parental monitoring features directly into its software in the form of a feature called KidZone which allows parents to set limits on the channels their children may access, or even to automatically filter programs based on the recommendations of the Parents' Television Council and other conservative or religiously-affiliated groups.[20] These features have earned DVRs the endorsements of parenting organizations, media watchdog groups, and policymakers, all of whom have praised DVRs as empowering parents to take control of their children's viewing and of television itself, for that matter. According to their proponents, DVRs are both pro-family and pro-First Amendment, and present a viable and desirable technological alternative to the government's legislation of broadcast content.

The theme of parental empowerment is central to the remedial discourses surrounding new digital television technologies; it likewise is often invoked to cast

[20] Quoted in May Wong, "Find Educational Children's Programs Through TiVo" *USA Today* (March 14, 2006).

radical reforms of the broadcasting industry as in the best interests of families. From the Reagan administration onward, the Federal Communications Commission (FCC) and Congress aggressively pursued the deregulation of the broadcast industry, under the rationale that vigorous, unregulated competition and empowered citizen-consumers could more efficiently regulate the broadcast industry than big government agencies like the FCC. The Telecommunications Act of 1996 transformed this philosophy into policy.[21] In addition to comprehensively rewriting (or discarding) many of the regulations governing broadcast station licensing and ownership, the Act charged broadcasters with the task of devising a ratings system for television programming, and stipulated that beginning in 2000 every television receiver with a screen larger than thirteen inches would be required to contain the parental filtering technology known as the "V-chip." Bipartisan supporters of this portion of the Act framed it as deputizing parents to police broadcast indecency within their own homes, and according to their own individual tastes and values.[22] (Not that the availability of the V-Chip would deter the FCC from maintaining an active profile in this area: in the years since the V-Chip became mandatory, indecency fines have

---

[21] See, for instance, Patricia Aufderheide, *Communications Policy and the Public Interest: The Telecommunications Act of 1996* (New York: The Guilford Press, 1999); Robert W. McChesney, *The Problem of the Media: U.S. Communication Politics in the Twenty-First Century* (New York: Monthly Review Books, 2004).
[22] Lawrie Mifflin, "TV Industry Vows Fight to Protect New Ratings Plan" *New York Times* (December 13, 1996): A1.

skyrocketed, peaking at $7.7 million in 2004.)[23] Backed by the FCC and electronics manufacturers, parents would "regulate" television on a household by household basis. Of course, before parents take on this responsibility, they would first be required to upgrade to a new, V-Chip equipped set, or acquire another technology similarly equipped to screen out programming. In the terms set out by the Telecommunications Act, reform was predicated on deregulation, on technology, and finally on consumption.

In a discussion of the V-chip, Jyotsna Kapur has argued that this technology "positions parents, particularly mothers, as their children's enemy or drill sergeant, who must carry out the orders of the experts in order to control children and protect them from television."[24] Understandably, advocates of the V-Chip and other parental monitoring technologies employ a different set of metaphors, describing parents not as "enemies" or "drill sergeants," but rather as shrewd *managers* of their children's attention. Managerial metaphors are particularly prevalent on the websites of parenting organizations and media watchdog groups, many of which address parents as domestic managers, and describe monitoring their children's television viewing as a test of their managerial acumen. The connections between parenting and management are made explicit in the web address of TheTVBoss.org, a site set up by the Ad

---

[23] URL (Accessed June 26, 2008): http://www.washingtonpost.com/wp-srv/business/graphics/web-fcc970.html/.
[24] Jyotsna Kapur, "Out of Control: Television and the Transformation of Childhood in Late Capitalism" in Marsha Kinder (ed.) *Kids Media Culture* (Durham, NC: Duke University Press, 1999), 122.

Council to offer parents tutorials on how to use the V-chip and other monitoring technologies. “You’re the boss of what your kids watch,” the site’s splash screen informs visitors. “Make the rules. Know the ratings. Use parental controls.” TheTVBoss.org goes on to explain to parents that “[t]oday’s hot topic is media management – not elimination, and this means balancing television’s advantages with other activities, and helping your child get involved in making good TV decisions.”[25] Advocacy groups distance parental monitoring from censorship, and instead frame it as a dimension of parents’ responsibilities to their children and to society at large. To help parents carry out these responsibilities, TheTVBoss.org links to the websites of a number of groups offering childrearing tips, family-friendly reviews of television and other media, and media literacy instruction. It also advocates using DVRs, both to assemble a library of family-friendly programming, and to timeshift programs with “adult” themes for viewing when children are away from home or in bed.

As outlined by the Ad Council and other advocacy groups, the task of managing family viewing belongs to a much more comprehensive project of domestic management in which parents, in consultation with expert advisors, rationalize the productive and reproductive functions of the household and its individual members using technologies, strategies, and mindsets borrowed from the business world. Commenting on a study of technology use within upper-

---

[25] URL (Accessed June 26, 2008): http://www.thetvboss.org/. For other instances where monitoring is framed as management, see URL (Accessed June 21, 2008): http://www.tivo.com/whatistivo/tivois/TV/index.html#kid_zone/; URL (Accessed June 21, 2008): http://www.nbc.com/nbc/footer/v-chip/.

middle class families, David Morley points out that amongst a small yet growing portion of the population of industrialized western nations "families increasingly see themselves and their problems in the terms of management theory," and go about solving these problems "using the principles of business management."[26] Along similar lines, the political theorist Nikolas Rose has suggested that under contemporary regimes of accumulation and governance, families are "transformed into a little calculative locale, planning the present in terms of the future through share ownership, investment, pensions, insurance plans, linking the individual and family into a web of expert advisers and suffusing it with expert calculative technologies in the name of maximizing their human capital and their lifestyle."[27] Both Morley and Rose describe a set of conditions under which families reorganize themselves in accordance with the financial rationalities of the business world so as equip themselves to deal with contingencies that threaten to compromise or devalue the "human capital" of their members. We see this calculative, business-minded approach to domestic life sketched out most explicitly in discussions of parenting. In these contexts, parenting supervision is reimagined as a human relations issue: as domestic managers, it is the "job" of parents to monitor and manage their children's activities so that

---

[26] David Morley, *Media, Modernity, and Technology: The Geography of the New* (London: Routledge, 2007), 207.
[27] Rose, *Powers of Freedom*, pp. 215, 164.

they may grow up to become the “happy, healthy, and productive” citizen-consumers upon which advanced liberal modes of governance are reliant.[28]

If parents are in these scenarios rendered as the equivalent of self-directed middle management, children occupy a much more ambiguous position, somewhere between that of the “employees” these managers supervise and the “products” that these “family businesses” are engaged in producing. This is particularly the case with respect to discussions of new television technologies and family viewing. Media reports relate countless success stories about parents who have used digital technologies, and DVRs in particular, to take a more active role in administering their children’s media diets, and therefore to help their children grow and profit off of their human capital. In 2004, the *New York Times* offered one such story. The article told of a single father who used a DVR to teach his son valuable life lessons about time management and hard work, and therefore to give his son the means of capitalizing on his own productive capacities. The father explained to a reporter that:

> [b]efore we got the TiVo, my son was getting C’s and D’s in school because he was staying up late to watch his shows and going to school half-awake. Now we watch TV together as a family after dinner … And my

[28] URL (Accessed June 26, 2008): http://www.thetvboss.org/.

son even has enough time to get a job. So it's improved his sense of the value of time. And it's improved my relationship with him.[29]

By taking control of his son's viewing, the father in this story helped his child become a more disciplined and productive individual, and in the process strengthened the father-son bond. Advertisements narrate similar success stories, portraying domestic managers who use their DVRs to rationalize their children's leisure and nurture family ties. In a commercial for Time Warner Cable's DVR service, a father recounts taking advantage of his DVR's ability to record two programs simultaneously to resolve a disagreement between his children over the programs they will watch. The dad in this commercial adjudicates over these conflicts by rationally allocating time, personnel, and resources between television viewing and more "classically" productive activities, timeshifting not only his children's favorite programs, but also their leisure.[30] In

---

[29] Eric A. Taub, "How Do I Love Thee, TiVo?" *New York Times* (March 18, 2004), p. G1.

[30] As Lynn Spigel demonstrates, as early as the mid-1950s consumer electronics manufacturers promoted far-fetched technological solutions to the question of who would decide what programs the family would watch. Devices like the DuMont Duoscope, which enabled two viewers to simultaneously watch different programs on the same set, fostered an illusion of "togetherness" that belied the ways in which television transformed the interactions between family members and the shared space of the home. Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), 71-2. Sony's mid-1970s Betamax advertisements resurrected this theme of mediated togetherness, once again proposing a technological solution to the domestic problems that could arise when family members wanted to watch different programs scheduled at the same time. One print advertisement from November 1975 shows an image of a console unit VCR with a football game

these accounts, DVRs make possible parental interventions that transform television and the family in equal measure; both are repaired, in a sense, as domestic managers use their DVRs to reconstitute the mythical family circle of television's past around the most up-to-date networked hardware.[31]

Studies by the Kaiser Family Foundation and other organizations suggest that few parents know about the filtering options DVRs and other devices place at their fingertips, and fewer still take advantage of them to manage their children's viewing.[32] Still, the idea persists that DVRs and other digital television technologies empower parents as they did the single father in the *New York Times*' report. However, it is *not* technology itself, but rather the activation of parents' responsibilities as domestic managers in advertising, product designs, policy documents, and media reports that ultimately "empowers" them to take

---

playing on its monitor, accompanied by the headline "While this side is showing your favorite Monday night 9 o'clock show, this side is videotaping your other favorite Monday night 9 o'clock show." The advertisement made a clear allusion to CBS's recent decision to move the number one ranked *All in the Family* (CBS, 1971-79) into the Monday 9 pm timeslot, directly opposite ABC's *Monday Night Football* (1970-2005). By slotting *All in the Family* into Monday night lineup stacked with top-rated programs featuring female leads, including *Rhoda* (1974-78), *Phyllis* (1975-77), and *Maude* (1972-78), CBS attempted to divide the audience along the axis of gender. Sony's coy suggestion that women could record their favorite CBS shows while men watched *Monday Night Football* live anticipated the domestic disputes that might arise from this brazen act of counterprogramming, and identified time shifting as a potential technological solution to these conflicts.

[31] Spigel discusses the historical importance of the iconography of the "family circle" in ibid., pp. 40-44.

[32] Victoria Rideout, *Parents, Media, and Public Policy: A Kaiser Family Foundation Survey* (Menlo Park, CA, 2004): 7; Federal Communications Commission, "In the Matter of Violent Television Programming and Its Impact on Children," MB Docket no. 04-261 (April 25, 2007): 14.

control of television. These responsibilities empower parents not only in relation to television but also in relation to the state. In construing media monitoring as a parental responsibility, its advocates also pose it as a right, as is captured quite succinctly in the slogan of the advocacy group Take Parental Control: "Our Right. Our Responsibility."[33] This is a right that parents must exercise or lose; the alternative to accepting personal accountability for monitoring children's television viewing is the heavy-handed, top-down interventionism of the quasi-socialistic liberal welfare state. The website of one advocacy group frames these alternatives in rather blunt terms: "Either we take responsibility for what our children watch or the government will decide what all of us can watch."[34] (Interestingly, the FCC and Congress increasingly mobilize this very logic to publicly rationalize deregulation and privatization.)[35] The right to determine what one's children watch on television is here tied into a much larger set of oppositions between autonomy and control, freedom of choice and totalitarian dominance, and the individual and the state. It is, in other words, a right worth fighting for … or, at the very least, worth buying for. Digital television technologies' remedial discourses exhort parents to imagine themselves as both taking responsibility for their children's wellbeing and as exercising their own

---

[33] URL (Accessed June 26, 2008): http://www.takeparentalcontrol.org/.
[34] URL (Accessed June 30, 2008): http://www.televisionwatch.org/WhoWeAre/Default.html/.
[35] The articulation of rights and responsibilities is a defining characteristic of neoliberal regimes; as Rose notes, under such regimes, liberties are experienced primarily through the individual's performance of his or her responsibilities as a citizen-consumer. Rose, *Powers of Freedom*, p. 74.

personal liberties as they use V-Chips and DVRs to rationalize their families' viewing. Consumption – of goods, of services, of expert advice, and most of all of television – is good parenting and good citizenship, a way of standing up for one's family and one's constitutional rights via a single gesture.

DVRs and the "TV Program"

As the FCC and Congress busied themselves with reorganizing the U.S. broadcasting industry in accordance with the advanced ideals in the 1990s, television itself was playing an important role in advancing and disseminating these same ideals throughout the public sphere. Recent work by television studies scholars Laurie Ouellette and James Hay has illuminated television's contributions to advanced liberalism, identifying the medium's involvements in the cultivation of the self-reliant, self-monitoring, and self-governing citizen-consumers.[36] Ouellette's and Hay's point of reference is programming, and in particular the reality TV shows that came to comprise a sizeable portion of U.S. television networks' schedules in this period. The success stories (and failures) captured in weekly installments of makeover programs, home improvement shows, reality-based competitions, and other popular reality genres provide their participants with opportunities and resources to improve their appearances, possessions, homes, and health, and invite viewers to embark on (or at least imagine embarking on) similar projects of self-improvement in their own lives.

---

[36] Laurie Ouellette and James Hay, *Better Living Through Reality TV* (Malden, MA: Blackwell, 2008), 13-4.

Reality programs serve at once as venues where selves and society may be transformed, and pedagogical tools that teach their audiences how to go about making these changes.

For Ouellette and Hay, it is not just the content of television programming, but also its incorporation into television's everyday programming flows, that makes television so effective at these forms of pedagogy. To them, the term "TV program" is suggestive of the ways in which television provides a "serialized framework" for everyday regimens of personal management and self-improvement that are as pleasurable as they are effective (17, 31). On this point, however, I find it necessary to contest parts of Ouellette's and Hay's argument. Broadcast timetables are subject to relentless critique within the context of the remedial discourses surrounding DVRs and other digital television technologies. The promoters of these devices single out television's standardized schedules as remnants of an earlier model of economic and social organization that have long since outlived their usefulness, and that are in fact incompatible with free market ideologies of advanced liberalism. Ouellette and Hay are sensitive to the ways that new technologies reconfigure the "TV program," and note that the transformation of the U.S. television industry during the 1980s and 1990s was accompanied by the emergence of "more refined technologies of consumer choice and self-enterprise, such as the remote control, the time-shifting VCR, and more recently the DVR, to make the TV program more useful within one's particular lifestyle" (29-30). But the proliferation of these "refined" reception

technologies can also point us toward a different conclusion: that the standardized delivery of broadcast programming at fixed times of the day and days of the week is antagonistic with the priority advanced liberalism places on self-determination, freedom of choice, and flexibility. This is a position advanced by many of the proponents of new digital television technologies, and one that likewise infuses the promotional campaigns staged by these technologies' manufacturers. In all of these contexts, television's schedules are said to inhibit the entrepreneurial activities of viewers, effectively preventing them from participating in their own self-improvement and self-empowerment. Timeshifting, by contrast, is said to activate individual liberties, including the right (and responsibility) to organize one's time and attention as one sees fit. The DVR becomes in these accounts a means of restructuring television and of responsibilizing and entrepreneurializing its viewers in line with the ideals and practices of a new way of life premised on new technologies and new forms of social and economic organization that explicitly identify themselves in opposition to the sort of regularity and consistency that Ouellette and Hay find in the TV program.

Comments by Michael Powell, Chairman of the Federal Communications Commission (FCC) between 2001 and 2005 under President George W. Bush and "an enthusiastic, almost religious, proponent of neoliberal ideology," lend weight to the notion that the reinvention of television of which Ouellette and Hay speak was in a significant way linked to television's reconceptualization as an on-

demand medium scheduled and programmed not by television networks, but by individual audience members in accordance with their own tastes and lifestyles.[37] In 2003, Powell professed his affection for DVRs and timeshifting, going so far in one interview as to call TiVo "God's machine."[38] As Powell told one interviewer, with a DVR, "I'm my own programmer, not NBC. I've got a system looking all around the 300 channels I have. And picking out the stuff I like, putting them together and letting me decide whether *24* is on at 9 o'clock or 9:45."[39] Powell's evangelizing on behalf of timeshifting, or what the technology author Leo Laporte calls "DIY network programming," speaks to the influence that new technologies exert upon advanced liberal (de-)regulatory agendas.[40] As noted above, since the 1980s the proliferation of new communications technologies has provided a compelling justification for the FCC's progressive deregulation of media industries. On numerous occasions during his tenure at the FCC Powell described his job as one of reconciling outmoded regulatory structures with the new powers (and responsibilities) granted to viewers by digital technologies.[41]

---

[37] Robert W. McChesney, "Media Policy Goes to Main Street: The Uprising of 2003" *The Communication Review* vol. 7 (2004): 226.
[38] Benny Evangelista, "Plenty of Company: Everybody's Talking about TiVo, but the Digital Video Recorder Pioneer Is Just One of Many" *San Francisco Chronicle* (February 24, 2003).
[39] Noam Scheiber, "The Way We Live Now: 9/21/03: Questions for Michael Powell: King of All Media" *New York Times Magazine* (September 21, 2003): 17.
[40] Leo Laporte and Gareth Branwyn, *Leo Laporte's Guide to TiVo* (Indianapolis, IN: Que Publishing, 2004), 61.
[41] "FCC Chief Wields Power to Shape Future of Tech" *San Jose Mercury News* (February 3, 2003); "The Reluctant Planner: FCC Chairman Michael Powell on Indecency, Innovation, Consolidation, and Competition" (interview with Jesse Walker, Nick Gillespie, and Drew Clark) *Reason Magazine* (December 2004)

Powell's statements, however, are also suggestive of the degree to which television's responsibilization of its audiences is linked in popular discourse to the choices viewers make about *how* – and not just *what* – they watch. In Powell's glowing description of TiVo and timeshifting, he is a "programmer," and most definitely not one who follows a program. Within the context of digital television technologies' remedial discourses, this distinction is critical, and sets contemporary approaches to TV repair apart from the efforts of reformers whose primary concerns were with television's programming.

Mass Audiences and Mass Markets

Since the 1920s, broadcast timetables have been patterned after daily and weekly cycles of labor and leisure and the morally-legislated schedules of heteronormative bourgeois domesticity.[42] Through their mutual reflection and reinforcement of one another, these homologous schedules of production, reproduction, and domestic leisure interpolate viewers into formalized relationships with capital, with the clock, and with one another. The timetable is, as Kim Bjarkman has suggested, exemplary of "the quotidian ways in which power relentlessly organizes our lives by imposing schedules and limits – that is, the ways marketing systems as well as geographical barriers and time zones

[42] Nick Browne, "The Political Economy of the Television (Super) Text" *Quarterly Review of Film Studies* vol. 9 no. 3 (Summer 1984): 174-183; Judith Halberstam, *In a Queer Time and Place: Transgender Bodies, Subcultural Lives* (New York: New York University Press, 2005).

dictate when, where, and how we can consume what we want to consume."[43] Schedules translate industrial speculations about who is and isn't likely to be at home and in control of the receiver at any given moment into programming practice.[44] As they do, they perpetuate and naturalize within the contours of the broadcast day the temporal patterns of conventional distributions of work and leisure amongst members of the household, distributions that, as many feminist scholars have shown, are deeply embedded within the gendered and generational power dynamics of the middle class family.[45]

---

[43] Kim Bjarkman, "To Have and to Hold: The Video Collector's Relationship with an Ethereal Medium" *Television & New Media* vol. 5, no. 3 (2004): 244. The schedule is in this respect a relic of an earlier mode of political, economic, and social organization, one characterized by the centralized administration of production, consumption, and reproduction. But though potentially frustrating for viewers, these limits also give rise to a number of collective rituals that gave television viewers a pleasurable sense of participation in a larger social entity: the broadcast audience. The schedule was and continues to be a source of the mediated experiences of simultaneity that Benedict Anderson contends are the foundation of the modern nation state's sense of self-awareness. On an even more banal level, it provides a comfortingly familiar structure to blocks of leisure that are otherwise largely formless, and creates a common point of reference for members of a diverse and geographically-dispersed population. Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (New York: Verso, 1999), 35. For a reconsideration of Anderson's thesis within the context of "postbroadcast" television, see Rod Brookes, "Research Note: Time, National Identity and Television Schedules in the 'Postbroadcast' Age" *Time & Society* vol. 7 no. 2 (1998): 369-81.

[44] John Ellis, "Scheduling: The Last Creative Act in Television?" *Media, Culture & Society* vol. 22 (2000): 26.

[45] Tania Modleski, "The Rhythms of Reception: Daytime Television and Women's Work," in E. Ann Kaplan (ed.) *Regarding Television* (Frederick, MD: University Publications of America, 1983), 67; Nancy Chodorow, *The Reproduction of Mothering: Psychoanalysis and the Sociology of Gender* (Berkeley: University of California Press, 1978), 179.

While the timetables of work, leisure, marriage, and reproduction have changed dramatically over the course of the twentieth century, with a few notable exceptions (namely, the shift to a twenty-four hour broadcast day), television timetables continue to be modeled on the same eight-hour work day, forty-hour work week, and "strict bourgeois rules of respectability and scheduling" on which radio timetables were based in the 1920s.[46] Noting the persistence of these scheduling conventions, the media analyst Josh Bernoff described television as one of the final holdouts in America's transition to a twenty-four/seven on-demand society. According to Bernoff, at their own peril broadcasters were standing in the way of form of social progress that technology made all but inevitable. New technologies had, in Bernoff's words, "'trained people that you can buy things at 3 in the morning in the nude on the Internet and make a call to anyone from anywhere on a cellphone, and the idea that CBS is going to determine when I watch *CSI* flies in the face of that trend.'"[47] In the terms set out by Bernoff, television's rigid timetables mark it as out of touch with the times. But beyond that, they also put television in conflict with the modern consumer-citizen's inalienable right to watch (and buy) whatever one wants whenever and wherever one wants to. Though a relatively new right, and one that, according to Bernoff at least, the citizen-consumer has to be "trained" to exercise, the right to

---

[46] For instance, as of 1997 only 54.4 percent of the American labor force worked traditional forty-hour, Monday-Friday workweeks. Lonnie Golden, "Flexible Work Schedules: What Are We Trading Off to Get Them?" *Monthly Labor Review* (March 2001): 50; Halberstam, *In a Queer Time and Place* p. 5.

[47] Quoted in Amy Harmon, "Skip-the-Ads TV Has Madison Ave. Upset" *New York Times* (May 23, 2002): A1.

set one's own timetables for leisure and consumption is here made out to be an extension of the consumer-citizen's sacrosanct freedom of choice.

In light of the growing discrepancy between television's schedules and its audiences' lived experiences, some commentators have identified DVRs and other timeshifting devices as means of reclaiming this freedom from the constraints television's schedules impose on viewers' leisure and consumption. Television is in these accounts not merely out of touch with the citizen-consumer's rights, but is actually an affront to them. *Wired*, for instance, characterized television's timetables as a metonym for an unbearably centralized, top-down model of cultural dissemination, describing them as the mechanism by which arrogant Hollywood or Madison Avenue types forcefully imposed the will of their corporate patrons on audiences. "Television is run by people who make their living telling other people what to watch and when, while cramming in more and more ads to pay for it all," *Wired* explained. "Plug in a device that short-circuits the system and they're in trouble." Within this context, the DVR is a revolutionary device that empowers the audience to disregard the schedule, and, by doing so, to overthrow or, to borrow a word from *Wired*'s article's title, *smash* the networks' tyrannical authority.[48] The DVR manufacturer TiVo has been one of the most adamant promoters of this idea: in a controversial 2000 commercial, two black-clad, muscle-bound goons hurled a cocky network programming executive out of the window of his office as an announcer invited

---

[48] Frank Rose, "The Fast-Forward, On-Demand, Network-Smashing Future of Television", *Wired* vol. 11 no. 10 (October 2003).

viewers to "program your own network."[49] In the context of ads such as this one, the banal act of timeshifting television broadcasts, a technical possibility since as early as the 1960s, is politicized, and made out to be an act of consumer insubordination against the homogenizing forces of consumer capitalism.

This politicization of timeshifting hinged on the contention, shared by many 1990s cyber-enthusiasts, that the broadcast timetables – and broadcasting itself, for that matter – are relics of a mass market logic that computers, computer networks, and the "flexible" modes of production and consumption they made possible render obsolete. In his 1995 bestseller *Being Digital*, Nicholas Negroponte argued that thanks to computers, "[n]ot nearly as much of our communications need to be contemporaneous or in real time." That television remained largely a real time activity attested to the intractability of its "bizarre economic model." "We are constantly interrupted or forced into being punctual for things that truly do not merit such immediacy or promptness," Negroponte complained. "We are forced into regular rhythms, not because we finished eating at 8:59 p.m., but because the TV program is about to start in one minute." By contrast, he predicted "digital life will include very little real-time broadcast," or

---

[49] Commenting on this very ad, Boddy notes that "the anti-commercial inflection of TiVo's own commercials belies the company's more ambivalent business model. TiVo has a dizzying array of equity partners, including cable and satellite companies, consumer electronics manufacturers, and programme producers and networks, and the company strove to present the digital video recorder as a technology which will aid television advertisers, not put them out of business." *New Media and Popular Imagination*, p. 129. TiVo's various partnerships further illustrate the degree to which personal productivity and television's economic productivity merge in the discourses and practices of digital television technologies.

very real-time anything for that matter. Following the merger of television and the PC (or, more likely, he offered, the computer's subsumption of the television receiver), nearly all programming, save for news and live sporting events, would be delivered on an on-demand basis.[50] Television's coercive power would be eroded by a technology that shifted power over the schedule to the audience itself. Within years of the introduction of the DVR, press reports suggested that Negroponte's pronouncements might not be that far off. Though DVRs were slow to catch on with consumers, profiles of early adopters described people so accustomed to recording their favorite programs that they had grown blissfully unaware of on what nights or even networks they aired, and offered anecdotal evidence that some DVR households had given up on real-time viewing altogether, timeshifting everything they watched.[51]

According to Negroponte, the move away from real-time broadcasting and towards a world of asynchronous communication and consumption would be accompanied by the abandonment of television's "bizarre economic model" for one that better took advantage of computers' and computer networks' capabilities for instantaneous, asynchronous data delivery. Numerous commentators during

---

[50] Negroponte, *Being Digital*, p. 168. Bill Gates expressed a similar contention in his own contribution to the technofuturist genre, arguing that "it is human nature to find ways to create synchronous communication into asynchronous forms. … One of the benefits bestowed by the information highway will be more control over our schedules. … Once you make a form of communication asynchronous, you can also increase the variety and selection possibilities." *The Road Ahead* (New York: Penguin, 1995), 66.

[51] Brad Stone, "The War For Your TV," *Newsweek* vol. 140 no. 5 (July 29, 2002); Amy Harmon, "Skip-the-Ads TV Has Madison Ave. Upset" *New York Times* (May 23, 2002): A1.

this period arrived at a similar conclusion, drawing connections between television as a medium and the mass market economy of industrial capitalism. Writing in the *New York Times Magazine*, Michael Lewis argued that

> television is the mass market. Without the television, there never would have been Tide or Rice Krispies or Alpo but a thousand versions of Tide and Rice Krispies and Alpo. … For the big brands, life without television is no life at all. Giant corporations whose sole purpose is to mass-market consumer goods exist in their current form because the television shaped the mass market.[52]

Though decisively hyperbolic, Lewis's explanation of television's role within industrial capitalism did make a point. Television had in fact been foundational to the functioning the market during the second half of the twentieth century, playing a central role in the regulation of demand and the coordination of consumer markets on a national scale. Only now, television's former function as metronome for the mass market marked it as "socialistic force in American life," and incompatible with the ideals of self-determination, personalization, free choice, and consumer autonomy to which many 1990s techno-boosters ascribed. "The top-down television system is an alien and corrosive force in democratic capitalism," George Gilder insisted. "In a broadcast medium … manipulative

---

[52] Michael Lewis, "Boom Box" *New York Times Magazine* (August 13, 2000).

masters rule over huge masses of people. Television is a tool of tyrants." Television's tyranny was a tyranny of the clock, in which the centralized synchronization of consumption enforced a homogeneity of tastes and lifestyles that was not only undemocratic, but, as Gilder claimed, an "affront" to human nature.[53] For these reasons, Lewis could liken television's inevitable overthrow by DVRs and other digital technologies as a milestone on par with the collapse of the Soviet Union, the breeching of the Berlin Wall, and other great milestones in the struggle against socialism.

Flexible Labor, Flexible Leisure

In mapping out the transition between the "socialism" of television's centrally-synchronized mass market and the friction-free capitalism of the impending digital age, 1990s techno-boosters repackaged sociological and political-economic analyses of late capitalism for popular consumption. The mutations of capitalist regimes of accumulation were the subject of extensive analysis in the final decades of the twentieth century. According to dominant narratives of this shift, in the aftermath of the global financial crises of the 1970s, a *Fordist* regime of accumulation, centered around standardized industrial manufacturing practiced on a massive scale by vertically integrated firms under the oversight of the Keynesian welfare state, gradually gave way to a *post-Fordist* information economy powered by decentralized firms in de- or re-regulated sectors serving

[53] Gilder, *Life After Television*, pp. 49, 47, 16.

finely-differentiated and globally-dispersed niche markets.[54] Commentators on these developments describe post-Fordism as characterized by the valorization of flexibility at all stages of production and consumption. Individuals experience the consequences of this ideology of flexibility most immediately through their participation in the workforce: as a complement to "just-in-time" production principles originally developed under Fordism, which stress maintaining low inventories and minimizing the time both raw materials and finished products spend in the warehouse, post-Fordist firms have refined flexible "just-in-time labor" strategies, in which a lean labor force can be rapidly mobilized (or dissolved) in accordance with irregular cycles of demand.[55] In concert with the

---

[54] See, for instance, Michael J. Piore and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York: Basic Books, 1984). For critical overviews on the scholarship on post-Fordism, see David Harvey, *The Condition of Postmodernity: An Enquiry Into the Origins of Cultural Change* (London: Blackwell, 1989); Manuel Castells, *The Rise of the Network Society* (Malden, MA: Blackwell, 2000); Scott Lash and John Urry, *Economies of Signs and Space* (London: Sage, 1994); David Morley and Kevin Robins, *Spaces of Identity: Global Media, Electronic Landscapes, and Cultural Boundaries* (London: Routledge, 1995), 27-31.

[55] Castells suggests that "[j]ust-in-time labor seems to be substituting for just-in-time supplies as the key resource of the informational economy." Castells, *The Rise of the Network Society*, p. 289. Martin Carnoy identifies the flexible labor processes and arrangements of post-Fordism as having four primary implementations. These are flexible working times, flexible notions of job stability, flexible working locations, and a flexible social contract. Martin Carnoy, *Sustaining Flexibility: Work, Community, and Family in the Information Age* (Cambridge: Harvard University Press, 2000). The most explicit example of these flexible labor arrangements are the "flextime" policies offered to full-time employees, which grant workers accountability for and oversight over daily and weekly work schedules. As of 2001, 28.8 percent of all full-time waged and salaried workers enjoyed some flextime benefits. Meghan Collins Sullivan, "Flextime Bids Fond Farewell To the 9-to-5" *Washington Post* (September 5, 2004): F1. The flip side to these "voluntary" implementations of labor flexibility

development of these strategies, the Fordist ideal of full-time, lifelong employment has been dismantled, giving way to a celebration of the "freedoms" and "opportunities" individual workers stand to enjoy under flexible labor arrangements.

More astute commentaries on this epochal shift have identified post-Fordism's flexibility as a contested ideological construct, the primary purpose of which is to provide an appealing rationale for advanced liberal regimes' attacks on the welfare state and Fordist social contract.[56] But in the remedial discourses surrounding DVRs and other digital television technologies, techno-boosters celebrated flexibility as an enhancement of personal liberty and free choice made possible by new technologies and communications networks that enabled workers to transcend time and space to work whenever and wherever they pleased. Champions of the "new" economy, especially those affiliated with publications like *Wired* and *Fast Company*, argued that the flexible forms of work computers, fax machines, cell phones, PDAs, and other new technologies made possible were more fulfilling for employees and more productive for businesses

---

are the undesirable forms of "flexibility" that come as a result of seasonal layoffs, global outsourcing, or downsizing.

[56] For example, Anna Pollert labels flexible labor as "part of an ideological offensive which celebrates pliability and casualization, *and makes them seem inevitable*." The primary achievement of these ideologies, she suggests, is to legitimize in the name of progress the erosion of the social contract between employers and employees that was the basis of the Keynesian welfare state. Anna Pollert, "Dismantling Flexibility," *Capital and Class* vol. 34 (Spring 1988): 72. See also Naomi Klein, *No Logo: Taking Aim at the Brand Bullies* (New York: Macmillan, 2002), 231-258; Rose, *Powers of Freedom*, p. 157.

than the rigid and uniform Fordist labor arrangements they replaced.[57] Tech journalist and Al Gore speechwriter Daniel Pink described the difference between these successive labor arrangements as that between Taylorism, the brutally rational and standardized scheme of scientific management developed in the late nineteenth century by Frederick Winslow Taylor, and "Tailorism," a thoroughly modern work-style in which workers had an increased say over where, how, when, and with whom they worked. "In the era of the Organization Man, work was a one-size-all proposition," Pink explained.

> You wore a blue collar or a white one, slipped on your work boots or buttoned up your gray flannel suit. People generally arrived at work at the same time as their colleagues – and left in unison as well. Try to picture work in that era and you'll likely conjure one of two images: a regiment of identically dressed assembly line workers exiting factory gates at the sound of the whistle – or a herd of gray-flannelled middle managers boarding a commuter train in lockstep at precisely 7:31 a.m.. Uniform work required uniform workers.[58]

---

[57] See, for instance, Tom Peters, "The Brand Called You," *Fast Company* no. 10 (August 1997): 83; Daniel Pink, *Free Agent Nation: How America's New Independent Workers Are Transforming the Way We Live* (New York: Warner Books, 2001), 14; Richard Florida, *The Rise of the Creative Class…and How It's Transforming Work, Leisure, Community*, *& Everyday Life* (New York: Basic Books, 2002), 113.

[58] Daniel Pink, *Free Agent Nation: How America's New Independent Workers Are Transforming the Way We Live* (New York: Warner Books, 2001), 19, 18.

Invoking William Whyte's *The Organization Man* and Sloan Wilson's *The Man in the Gray Flannel Suit*, Pink equated 1950s anomie with the regimentation and regularity of Fordist work schedules that reduced individuals into a uniform mass of (uniformed) workers moving in sync through the economic and physical infrastructure of the mass market economy. In contrast to the soul-crushing conformism enforced by these schedules, an information economy centered around computers boded a return to pre-industrial experiences of "task time," nostalgically described as governed by the "natural" rhythms of life, and not the arbitrary dictates of the clock.[59] No longer bound by the rigidities of standardized 9-5 workdays and work weeks and expectations of lifelong employment, workers would become, in Pink's terms, "free agents," contracting out their skills on a

---

[59] For the classic account of the nature of this pre-modern temporality, see E.P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past and Present* no. 38 (December 1967): 56-97. Pink and other celebrants of labor flexibility connected this return to pre-industrial task time to the rise of a new class of professionals: thus, for instance, Pink speaks of free agents, while Richard Florida describes the ascendance of a "creative class" of no-collar workers. Pink, *Free Agent Nation*, p. 33; *…and How It's Transforming Work, Leisure, Community*, *& Everyday Life* (New York: Basic Books, 2002). However, for the most part, champions of labor flexibility were strangely blind to the ways in which post-Fordist labor arrangements impact those individuals not fortunate enough to count themselves as members of this new privileged class of workers. Thus, for instance, while Florida acknowledges that "we are becoming a society in which creative class people literally live in a different kind of time from the rest of the nation," he explains these differences in terms of the proclivities of those creative types engaged in knowledge labor, and not the structural composition of labor markets. In any event, the difference which Florida identifies are nowhere near as stark as he suggests: as Naomi Klein has shown, the same ideology of flexibility celebrated by writers like Pink has also been appropriated to justify the reduction of benefits and the elimination of living wages in the service sphere, where many low-paid and uneducated individuals work. Klein, *No Logo*, pp. 231-258.

freelance basis over the course of their "portfolio careers."[60] Flexibility was freedom of choice, applied to the world of labor: the freedom to set one's own hours, to work from home, to chose with whom (and for whom) one would work, and on which projects one would work. (The only choice these free agents were not free to make was whether to work or not to work; with institution of welfare-to-work programs, even in unemployment the flexible free agent was required to continue working.) Suffice it to say, in describing these freedoms, Pink saw little reason to belabor the disparity between the job security and benefits enjoyed by organization men and the profound precarity with which workers in pre- and post-industrial economies must contend.[61]

The freedom to work when and where one wished was often equated in these accounts with the freedom to schedule one's own leisure according to the same ideals of flexibility that increasingly govern work. Richard Florida thus

---

[60] The term "portfolio career" is Tom Peters'. He writes:

> No more vertical. No more ladder. That's not the way careers work anymore. Linearity is out. A career is now a checkerboard. Or even a maze. It's full of moves that go sideways, forward, slide on the diagonal, even go backward when that makes sense. (It often does.) A career is a portfolio of projects that teach you new skills, gain you new expertise, develop new capabilities, grow your colleague set, and constantly reinvent you as a brand.

"The Brand Called You," p. 83.

[61] Mark Deuze argues that the flexibility idealized by post-Fordist and neoliberal ideologies "for many is synonymous with living in fear of real or perceived job insecurity." In dialogue with Richard Sennett, he suggests that contrary to flexibility's celebrants, this precarity is the basis of new forms of coercive power and control. "Liquid Life, Convergence Culture, and Media Work" White Paper (Bloomington, IN, 2006): 3; Sennett, *The Corrosion of Character* (New York: W.W. Norton & Company, 1998), 47.

celebrated the penchant of members of the "creative class" (his name for that segment of the labor force engaged in knowledge labor) for blending work and leisure, describing workers who "intersperse bursts of work with chunks of personal time for exercise, errands, socializing, family time or just plain downtime."[62] Like a flexible workforce, a flexible leisure would be mobile, contingent, and frangible, growing or contracting to fill the irregular and unpredictable intervals allocated to it under increasingly precarious working conditions. Flexible labor arrangements unpackage the standardized bundles of leisure allocated to workers under the Fordist social contract, scattering bits and pieces of free time of varying durations throughout the work day and week. To accommodate this unpredictability, leisure must become every bit as flexible, and capable of being deployed "just-in-time," or at a moment's notice, and across a variety of locales, including both the home and the workplace. In a 1993 article on work and play in the information economy, *Fast Company* coined the term "neo-leisure" to describe the new forms of flexible leisure necessitated by post-Fordism's flexible labor arrangements:

---

[62] Florida, *The Rise of the Creative Class*, pp. 152-3. To Florida's credit, at the outset of his study he distinguishes his theories about the changing nature of leisure from the technological determinist accounts of writers like Pink. Florida writes: "These changes are not dictated by technology; rather they are the result of incremental shifts in human behavior and social organization" (17). That said, though he diverges with Pink over the issue of causality, Florida's thesis – that flexibility is conducive to economic growth and personal freedom – is predicated on the same ideologies as is Pink's much more simplistic account.

> Nobody who works "full time" works full time. … I figure at least 50% of a heroic 65-hour workweek is spent pursuing the invisible, undocumented life of neo-leisure. Neo-leisure, formerly known as goofing off, is what knowledge workers do for R&R. It's why every package of Windows comes with Solitaire pre-installed. It's why bean counters have been trained to check office phone bills for 1-900 phone-sex calls. It's why so many subscribers to America Online use it to download games."[63]

Fast Company's tongue-in-cheek exposé of neo-leisure made explicit the connection between this flexible leisure ideal and digital technologies capable of shifting activities in both time and space.[64] Perhaps no technology better illustrates this leisure ethos than the personal computer. In addition to being the post-Fordist technology's consummate productivity tool, the PC is also its exemplary instrument of flexible leisure. On a PC, spreadsheets and business plans commingle with YouTube clips and Solitaire games, making it so that leisure is at all times literally no further than a click away. Computer-mediated leisure is, for the most part, time- and site- *un*specific. Unlike broadcasting, it is largely unstructured by calendars or schedules, and is as portable as computer

---

[63] "Neo-leisure, the dirty little secret behind the 65 hour workweek," *Fast Company* no. 00 (October 1993): 26.

[64] I prefer the term "flexible leisure" over *Fast Company*'s "neo-leisure," as it reminds us of this form of leisure's close connection to the flexible labor practices favored by high-tech and information industry firms under the post-Fordist regime of accumulation.

hardware. As a result, it is enjoyed on demand, and at the audience's discretion in a diverse array of locations.

The DVRs significance as a technology of TV repair must be understood in relation to these mutually reinforcing labor and leisure ideals. Like the Fordist work schedules that the "new" economy's champions critique, television's standardized timetables demand of the audience conformity to the arbitrary and uniform rhythms of clock time. (Indeed, it requires little stretch of the imagination to go from Pink's mentions of 7.21 trains and 5 pm factory whistles to a nearly identical critique of 6 pm newscasts and primetime's 8 pm start.) By contrast, DVRs promise the possibility of organizing leisure in a manner that is ostensibly every bit as flexible as the forms of labor these commentators celebrate. DVRs break the schedule's hold on viewers' free time, enabling them to watch programs regardless of when they are broadcast, and even to break broadcasts into chunks of irregular durations that they may then disperse across fragmentary snatches of flexible leisure. In addition, they make it possible to de-standardize programming: by using their DVRs to fast-forward through advertisements, credits, and previews, viewers can customize the durations – and, to a certain extent, the content – of the programs they watch.

Proponents of DVRs and other digital television technologies stress the freedoms and opportunities that come from de-synchronizing one's leisure from the regimented timetables of Fordist labor and leisure. However, in opting out of these standardized leisure timetables, we trade the Taylorist rationalities of

Fordism for the Tailorist rationalities of post-Fordism. The operative difference between these Fordist and post-Fordist rationalities is the methods by which they are enforced. In a Fordist regime of accumulation, rationality is imposed upon consumption "from above," in the form of daily and weekly schedules, annual cycles of product introduction and obsolescence, windowed release timetables, and other time-based distribution schemas. In a post-Fordist environment, by contrast these rationalities are more diffuse, and are in fact self-enforced by entrepreneurially-minded consumers committed to profiting off of their own human potentials. With respect to television, each viewer stands to become the author of his or her own "TV program," and therefore responsible for rationalizing his or her consumption of television programming in accordance with the rationalities that govern the other aspects of his or her entrepreneurial lifestyle. The new role and responsibilities of viewers within this configuration were aptly captured in a 2004 story in the *Atlanta Journal-Constitution*. The article begins with a profile of a man who uses a DVR to meticulously organize and refine his attention, making sure that "[e]very second of his television viewing – from *Survivor* to *Star Trek* – is carefully chosen, recorded, and organized. …. Entertainment and information are electronically siphoned without an ounce of excess." The viewer explained that doing so "saves me time and gives me more options," the result being that "[m]y quality of life is greater."[65] What flexible labor arrangements do for workers' labor power, technologies like DVRs do for their

[65] Don Fernandez, "A World Made for One" *Atlanta Journal-Constitution* (May 23, 2004): 1MS.

leisure. That is, much in the same way as flexible labor arrangements encourage workers to become entrepreneurs of their own skills and labor time, flexible leisure ideals invite them to become entrepreneurs of their own leisure. In both, individuals are authorized to take charge of their own human capital, leveraging it in economic exchanges with employers, clients, coworkers, media institutions, and even friends and family members.

Attention Entrepreneurs

DVRs readily lend themselves to flexible leisure practices that rationalize television viewing in accordance with post-Fordism's reigning definition of labor productivity. This definition has shaped the cultural meanings of the DVR, and the meanings of TV repair as well. According to Manuel Castells, under post-Fordism, productivity no longer entails production per se, but rather the "capacity to generate, process, and apply efficiently knowledge-based information."[66] But despite information's importance to the post-Fordist regime of accumulation, during the 1990s a growing number of commentators contested its designation as an "information economy." As Michael Goldhaber argued in a seminal 1997 essay, "information, however, would be an impossible basis for an economy, for one simple reason: economies are governed by what is scarce, and information, especially on the Net, is not only abundant, but overflowing." Rather than an

[66] Castells, *The Rise of the Network Society*, pp. 21 n31, 77.

"information economy," Goldhaber countered, post-Fordism was actually an *attention economy*, in which attention was the basis of productivity and power.[67]

Goldhaber's thesis gained currency during the 1990s computer boom, and received extensive coverage in magazines like *Wired* and *First Monday*, as well as on countless weblogs.[68] But while grounded in observations about the economy then coalescing around the Internet, Goldhaber's argument is actually an updated version of a thesis first outlined in 1971 by the political scientist Herbert Simon. In a now-classic paper, Simon observed that:

> in an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention

---

[67] Michael H. Goldhaber, "The Attention Economy: The Natural Economy of the Net"
URL (Accessed December 7, 2005): http://www.firstmonday.org/issues/issue2_4/goldhaber/.

[68] See, for instance, Goldhaber, "The Attention Economy"; Georg Franck, "The Economy of Attention" URL (Accessed May 13, 2008): http://www.heise.de/tp/r4/artikel/5/5567 /1.html/; Florian Rötzer, "The Attention Economy Will Change Everything" (interview with Michael H. Goldhaber" URL (Accessed May 13, 2008): http://www.heise.de/tp/r4/ artikel/1/1419/1.html/; Michael H. Goldhaber, "How (Not) to Study the Attention Economy: A Review of *The Economics of Attention: Style and Substance in the Age of Information*" URL (Accessed May 15, 2008): http://firstmonday.org/issues/ issue11_11/goldhaber/; Tom Portante and Ron Tarro, "Paying Attention" *Wired* vol. 5 no. 9 (September 1997); Michael H. Goldhaber, "Attention Shoppers!" *Wired* vol. 5 no. 12 (December 1997).

> and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.[69]

Goldhaber and other latter-day exponents of Simon's theory describe post-Fordism in terms of a crisis of attentiveness brought about by the glut of stimuli produced and distributed via computers and computer networks, and amend the definition of productivity offered by commentators such as Castells to emphasize the challenges posed to workers by this information overload.[70] Much in the

---

[69] Herbert Simon "Designing Organizations for an Information-Rich World" in Martin Greenberger, *Computers, Communications, and the Public Interest* (Baltimore, MD: Johns Hopkins University Press, 1971): 40-41.

[70] The term "crisis of attentiveness" I borrow from Jonathan Crary's description of an earlier period in which attention was seen to be under attack. Jonathan Crary, *Suspensions of Perception: Attention, Spectacle, and Modern Culture*, 13. Late nineteenth- and early twentieth-century social critics Georg Simmel, Siegfried Kracauer, Walter Benjamin, and Theodor Adorno explored the modern subject's traumatic encounters with modernity's new machines of conveyance, manufacturing, and communication, theorizing modernity in terms of the unprecedented demands it placed on the human sensorium. The state of distracted perception they saw as endemic to this period these critics recognized either as a problematic consequence of modern life or as a coping mechanism individuals employed to gird themselves against the perceptual "shocks" they encountered in the streets, on the assembly line, and in the nickelodeon. See Georg Simmel, "The Metropolis and Mental Life" in Vanessa R. Schwartz and Jeannene M. Przyblyski (eds.) *The Nineteenth Century Visual Culture Reader* (London: Routledge, 2004), 51-60; Siegried Kracauer, *The Mass Ornament* (Cambridge, MA: Harvard University Press, 1995), 323-30; Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction" in Hanna Arendt (ed). *Illuminations* (trans. Harry Zorn) (London: Pimlico, 1999), 211-245; Theodor Adorno, *The Culture Industry: Selected Essays on Mass Culture* (London: Routledge, 2001), 29-60.

Attention economists offer descriptions of life in the information age that bear certain superficial similarities to some of these social critics' accounts of modernity, outlining scenarios in which individuals are assailed in their work and leisure by barrages of stimuli that overwhelm the finite limits of their attention

same way that post-Fordism's flexible labor arrangements "empower" workers by making them responsible for managing their own labor, these commentators suggest, so too do these arrangements require them to become managers of their own *attention*. In the tech-industry self-help book *Lifehacker: 88 Tech Tricks to Turbocharge Your Day*, Gina Trapani explains that "productivity used to equal assembly line workers who could build more widgets per hour. In the information age, higher productivity comes from knowledge workers who can filter the wheat from the chaff and execute the most important tasks amid a tornado of

---

spans. Yet crucial differences set these respective accounts apart. Where earlier works of social criticism contemplated the *structural* basis of modernity's crisis of attentiveness, modern-day attention economists identify distraction first and foremost as a problem of the individual, albeit one with steep costs for society at large. Theirs is a loosely cognitivist interpretation of the information age's crisis of attentiveness, one that appropriates contemporary medical discourses to suggest that computers have an effect on their users' minds that is comparable to attention deficit disorder. For example, Hallowell describes contemporary distractedness as "attention deficit trait," or ADT. He explains, "It's sort of like the normal version of attention deficit disorder. But it's a condition induced by modern life, in which you've become so busy attending to so many inputs and outputs that you become increasingly distracted, irritable, impulsive, restless and, over the long term, underachieving." Quoted in Trapani, pp. 29-30.

Certainly, such sweeping diagnoses are metaphorical, and draw upon fashionable clinical discourses primarily as a way of attributing a modicum of authority to the self-styled "experts" who make them. Nevertheless, these moves to pathologize computer-related distraction have important implications for the ways in which attention and distraction are discussed in a variety of popular settings. As Crary had noted about the diagnosis of ADD, clinical discourses dislocate distraction from the context in which it and its ostensible antipode, attentiveness, are socially constructed (33). They likewise function to absolve individuals of personal responsibility for their own distraction. In other words, distractedness is in the context of contemporary discussions of the attention economy a medical condition, and not, as it was in many early twentieth-century discussions, a moral shortcoming. But if clinical discourses clear individuals of any accountability for their mental states, they nevertheless place on them the strongest imperative to take responsibility for "curing" their affliction.

distractions."[71] Attention management entails screening out the distractions of which Trapani speaks, but it also involves learning how to profitably distribute one's attention amongst the temporary and shifting networks of contracts, clients, and commitments that supplant steady, lifelong employment as the post-Fordist economy's ideal labor arrangement. These acts of filtering and juggling represent a deeply reflexive project, one that requires individuals to constantly audit themselves and evaluate the tasks, information sources, and people on whom they "spend" their attention.

Trapani is one of the countless self-help gurus, management consultants, life coaches, and other quasi-professional counselors who emerged in the late 1990s and early 2000s to offer guidance on taming the "information age's" distractions via strategic applications of psychotropic medications, management strategies, self-help mantras, digital technologies, and above all personal discipline.[72] Though by no means a monolithic group, many of these experts (or, to appropriate a term from Richard Lanham, "attention economists") make attention out to be one of the forms of human capital that enterprising individuals administer in their lifelong projects of self-optimization and lifestyle

---

[71] Gina Trapani, *Lifehacker: 88 Tech Tricks to Turbocharge Your Day* (Indianapolis: Wiley Publishing, 2007), xxiii, 1, 197.

[72] Management consultants Thomas Davenport and John Beck speculate that "[p]erhaps we could someday use chemical aids that help us tune out the avalanche of information that will undoubtedly swell over us in the future. Just as some researchers and clinicians argue that Prozac makes even the mentally healthy into better, more confident personalities, drugs might help people deal with normal attention deficits." Thomas H. Davenport and John C. Beck, *The Attention Economy: Understanding the New Currency of Business* (Cambridge: Harvard Business School Press, 2001), 213.

maximization.[73] The website of AttentionTrust, a non-profit group set up to create and distribute technologies that offer users "greater control over their 'attention data,'" elaborated on this commodification of attention in a declaration of principles that states:

> You own your attention and can store it wherever you wish. You have CONTROL. … You can securely move your attention wherever you want whenever you want to. You have the ability to TRANSFER your attention. … You can pay attention to whomever you wish and receive value in return. Your attention has WORTH. …You can see exactly how your attention is being used. You can DECIDE who you trust.

---

[73] Richard Lanham, *The Economics of Attention: Style and Substance in the Age of Information* (Chicago: University of Chicago Press, 2006). Lanham uses this term to refer to those who structure attention via processes of symbolic manipulation – for instance, artists, information architects, computer interface designers, and so on. I, by contrast, appropriate "attention economists" as a designation for those writers who since the 1990s have elaborated on Simon's thesis in relation to the social and economic transformations linked to the widespread proliferation of computers and computer networks. Like Lanham, I use the term "economists" metaphorically – in other words, I do not mean to suggest that these analysts take a systematic or scientific approach to the study of attention, nor that they necessarily have any affiliation with the field of economics. Additionally, it is important to point out that in using this term it is not my intention to suggest that there exists a unified science of attention economics, or even consensual theory of what an attention economy is or looks like. (Goldhaber, for instance, would undoubtedly bristle at being lumped together with self-help authors and even with Lanham, whose work he has been highly critical of. See below.) The primary – and perhaps solitary – idea that the various individuals I have called "attention economists" share is an appreciation of Simon's thesis that information is abundant, leaving attention in short supply.

Within an attention economy, people become attention entrepreneurs of sorts, investing their attention so as to maximize the returns they earn on it. This form of entrepreneurialism takes place within the framework of the rights and responsibilities afforded to and borne by advanced liberalism's self-sufficient citizen-consumers. That is, each individual is at liberty to spend this capital as he or she pleases. Whether he or she invests it wisely, and profits from it, or squanders it on projects, people, or leisure pursuits that are unworthy of it, is ultimately a matter for which the individual bears sole responsibility.[74] The management consultants Thomas Davenport and John Beck thus implore readers of their business self-help manual *The Attention Economy* to become "investors of our own attention portfolios. The payoff for allocating my attention in a specific direction can be great – I can learn something, change something for the better, fix what's broken, or gratify another human being."[75] Davenport and Beck identify these practices as benefiting not only the individual who manages his or her own attention prudently, but also others: coworkers, clients, spouses, children are all enriched by the attention one invests in them. Attention management is in this respect both a way of growing one's own human capital and that of others.

This emphasis on attention investment as a form of self-optimization and social service belongs to a larger set of discourses on entrepreneurialism that are a defining feature of the culture of advanced liberalism. In a variety of social

---

[74] URL (Accessed September 5, 2006): http://www.attentiontrust.org/.
[75] Davenport and Beck, *The Attention Economy*, p. 11.

settings and cultural venues, individuals receive encouragement to strive to become successful entrepreneurs of their own human capital.[76] Indeed, Davenport's and Beck's entreaties echo political theorist Colin Gordon's observation that contemporary individuals are continuously employed in an "enterprise of oneself," the primary "business" of which it is "to make adequate provision for the preservation, reproduction and reconstruction of one's own human capital."[77] Already we have seen the ways in which this culture of entrepreneurialism contributes to the reconceptualization of the culture of the family, as enterprising domestic managers use DVRs and other technologies to administer the human capital of their children and ensure their maturation into production and useful members of society. The same entrepreneurial imperatives are at the root of advanced liberal societies' culture of self-improvement.[78] Self-improvement (in the form of adult education, re-skilling, exercise, dieting, makeovers, self-help courses, etc.) takes on a special significance in

---

[76] Paul du Gay, *Consumption and Identity at Work* (London: Sage, 1996).
[77] Colin Gordon, "Governmental Rationality: An Introduction" in Graham Burchell, Colin Gordon and Peter Miller, *The Foucault Effect: Studies in Govermentality* (Chicago: University of Chicago Press, 1991), 44. Quoted in Rose, *Powers of Freedom*, p. 142.
[78] As Laurie Ouellette notes, in dialogue with Barbara Cruikshank, "self-help is a cultural manifestation of neoliberalism, a technology of citizenship that encourages [people] to 'evaluate and act' on themselves so that the social workers, medical establishment and police 'do not have to.'" Ouellette, "'Take Responsibility for Yourself': Judge Judy and the Neoliberal Citizen" in Susan Murray and Laurie Ouellette (eds.) *Reality TV: Remaking Television Culture* (New York: New York University Press, 2004), 234; Barbara Cruikshank, "Revolutions within: Self-Government and Self-Esteem," in Andrew Barry, Thomas Osborne, and Nikolas Rose (eds.) *Foucault and Political Reason: Liberalism, Neoliberalism, and Rationalities of Government* (Chicago: University of Chicago Press, 1996). See also Rose, *Powers of Freedom*, pp. 160-4.

contemporary life, as a means of maximizing one's enjoyment of individual liberties, and as a means of protecting oneself and one's family from the risks that arise as a result of advanced liberalism's progressive dismantlement of the welfare state through privatization and deregulation. In both respects, this imperative to improve the self supports and extends upon neoliberalism's decentralized strategies of governance.[79]

The self-help strategies attention economists proffer discourage drawing distinctions between work and leisure: both become sources of "inputs" that must be processed before they are allowed to accumulate and overwhelm one's attention, or, in self-help author David Allen's terminology, "mental RAM." [80] This de-differentiation of work and leisure and their respective "inputs" sets attention management apart from the more familiar practice of time management.[81] While proponents of the latter preach compartmentalization, scheduling, and the importance of drawing boundaries, attention economists model their approaches to attention management after the flexible labor arrangements of post-Fordism.

---

[79] In dialogue with Gilles Deleuze's description of the "control society," Rose has argued these strategies disperse control throughout society, where it is enacted by individuals as they go about attempting to improve the quality of their lives through rational acts of planning and risk management. Expert advice, delivered by delegates of the state as well as by a wide range of "independent authorities" plays an important role in this dispersal of control, tutoring individuals in the art of living so as to maximize their self-reliance *and* their amenability to the forms of governance Rose terms "governing at a distance." ibid., 234, 49.

[80] David Allen, *Getting Things Done: The Art of Stress-Free Productivity* (New York: Penguin, 2001), 9-10.

[81] For more on the difference between time and attention management, see Davenport and Beck, *The Attention Economy*, pp. 27-9; John Clemens and Scott Dalrymple, *Time Mastery: How Temporal Intelligence Will Make You a Stronger, More Effective Leader* (New York: AMACOM, 2005), 2.

Just as these arrangements idealize forms of labor that disregard or eliminate boundaries between the workplace and the home, and time on and off the clock, attention economists outline approaches to attention management that would have individuals administer their work and their television viewing with the same entrepreneurial mindset.[82] In the context of a discussion of hyperefficient email filtering software, caller ID systems, and other technologies for managing attention in the workplace, Davenport and Beck identify DVRs as wise long-term investments for would-be attention managers: following an initial outlay of attention on training a DVR to recognize their preferences, attention managers could reap considerable dividends when their DVRs grew more sensitive to their likes and dislikes, and more capable of filtering television programming on their behalves.[83] In a similar vein, Trapani's website, Lifehacker.com, offers "TiVo Tricks" and suggestions on how to "master your digital media" alongside tips on streamlining job tasks.[84] On 43Folders.com, another site that dispenses attention management tips relevant to both work and leisure, one contributor described how her husband used his computer to create a ranked inventory of *Twilight*

---

[82] According to Allen, the de-differentiation of work and leisure is a crucial first step towards maximizing productivity in both realms. He writes, "[a]s you begin to use [this unified approach] habitually as your primary means of dealing with all situations – from processing e-mails, to buying a house or a company, to structuring meetings or having conversations with your kinds – your personal productivity can go through the roof." Allen, *Getting Things Done*, pp. 4, 249.
[83] Davenport and Beck, *The Attention Economy*, pp. 88, 91.
[84] URL (Accessed July 1, 2008): http://lifehacker.com/397573/master-your-digital-media-with-vlc/; http://lifehacker.com/351812/favorite-tivo-tricks; http://lifehacker.com/342832/automatically-remove-ads-from-recorded-tv-with-lifextender/.

Zone episodes for the purpose of managing his Netflix queue. Visitors to the same site collaborated on the creation of a widget, or desktop application providing continuously-updated at-a-glance information, that would alert them when their favorite television programs were in re-runs.[85]

Technologies and tricks like these promise enterprising individuals means of *auditing* their expenditures of attention across their work and leisure. The information these audits produce – in the form of usage logs, user-generated spread sheets, Netflix queues, etc. – furthers self-reflexive projects of attention management and deepens individuals' sense of ownership of and accountability for their own human capital. As Rose points out, in dialogue with the work of Michael Power, the audit is a central technology of advanced liberalism, one that subjects all sorts of institutions and relationships to ostensibly objective forms of evaluation geared towards measuring "outcomes" and "results." Just as audits are an important component of the methods by which the advanced liberal state administers itself and its institutions, so too do they factor in the processes by which enterprising individuals administer their own human capital. Self-auditing is a necessity in flexible working arrangements that shift to individual workers the responsibility for managing their own work schedules, benefits, and work spaces. In flexible leisure, auditing involves enterprising attention managers to keep track of their expenditures of and earnings on their own human capital. Many flexible

---

[85] URL (accessed: January 18, 2007): http://www.43folders.com/comment/322457/My-husband-keeps-track; URL (accessed: February 13, 2007): http://board.43folders.com/archive/index.php/t-761.html.

leisure technologies in fact offer to automate the auditing process, providing their operators with quantifiable metrics for these transactions and attesting to their own status as good attention investments.[86]

One exemplary self-auditing technology is AttentionTrust's Attention Recorder, a software plug-in for web browsers that keeps track of the attention web surfers spend online. Attention Recorder generates detailed documentation of its users' "Internet tracks," providing them with real-time accounts of their own "clickstreams," including the sites they have visited, the time they have spent at each one, and their most recent web searches.[87] The data assembled by this software is for all intents and purposes identical to the data collected by Internet ratings companies and online advertising brokers like Google and Yahoo for the purpose of conducting traffic in page views and "click throughs." Only whereas these corporations monetize this data by selling it to advertisers and page owners, Attention Recorder endeavors to provide individual web surfers with the same granulated data for their own attention management purposes, under the assumption that it can help them refine their online attention investments. In an ironic twist on the work Andrejevic describes, Attention Recorder's users become consumers of the information they themselves produce as they go about performing the "work" of interacting with digital media, using this information to help them improve their performance of this "job."

---

[86] See Rose's discussion of the work of Michael Power in *Powers of Freedom*, pp. 153-6.

[87] Dan Farber, "The Amorphous Attention Economy" URL (Accessed July 4, 2008): http://blogs.zdnet.com/BTL/?p=2683/.

Like any metric, these personal audits actually shape and act upon the activities they purport to objectively measure. In addition to mirroring their own web usage back to them, Attention Recorder also gives users the option of "publishing" their attention data on the Internet, giving friends or even complete strangers access to their attention histories. The software's creators describe this form of self-disclosure as the basis of a new kind of social networking, in which web surfers would use the software to meet others with similar attention investments.[88] Equally likely, however, is that this transparency helps the software's users become more conscientious about where they point their web browsers, and therefore more efficient attention managers. That is, by making its users more fully aware that their online attention expenditures are always subject to scrutiny by others, the software encourages web surfers to audit their own clickstreams in anticipation of others' opinions of them. The ultimate product of this audit, and of the audits performed by the many other attention management devices endorsed by attention economists, is not the data it generates, but rather a specific type of self-monitoring individual, one who has internalized the mechanisms of surveillance that drive digital commerce in order to become a more accomplished entrepreneur of his or her own human capital.

DVRs make it possible for viewers to perform similar audits on their own television watching. Though the usage data they provide to their operators is

---

[88] Attention Recorder creator Seth Goldstein even raises the possibility of "click stream dating," or Internet match-making carried out on the basis of attention profiles. See Dan Farber, "The Amorphous Attention Economy" URL (Accessed July 4, 2008): http://blogs.zdnet.com/BTL/?p=2683/.

nowhere near as comprehensive as that which they make available to broadcasters and sponsors, DVRs nonetheless offer viewers a means of tracking their attention investments via a variety of on-screen temporal indicators. Like many other digital television technologies, DVRs provide viewers with constant reminders of how long they have been watching, and how much time a program has remaining, in the form of the digital clocks and progress bars that comprise their graphical user interfaces. According to Daniel Chamberlain, the presence (or availability) of this temporal information stands to alter viewers' relationships to television programming; he writes: "the obvious temporal cues make it difficult to get lost in the story. I constantly catch myself glancing at the displays, hyper-aware of the narrative trajectory because I know exactly how much time is left."[89] If the heightened awareness of time of which Chamberlain speaks can disrupt viewers' immersion in television narratives, this distance might also enable them to more rationally audit their own attention expenditures. In fact, some self-help advisors actually coach television viewers to cultivate a detached stance with respect to the programming they watch, in which one pays as much attention (if not more) to how long one has watched as to what one is watching. Davenport and Beck, for instance, suggest that the true advantage of DVRs is not that they make it easier to timeshift, but rather that they make it possible to watch programming in less time, thereby freeing up time (and attention) that could be redirected to more conventionally productive activities. "Given how much the

[89] Daniel Chamberlain, "Watching Time on Television" URL (Accessed July 7, 2008): http://flowtv.org/?p=615/.

average American watches television," Davenport and Beck explained, "technologies that could, say, reduce a thirty-minute sitcom to twenty-two commercial-free minutes would free up a lot of attention. With such a capability a TV viewer could watch more edifying television programs, or, for God's sake, read a few pages of a book."[90]

Though grounded in the attention economy hypothesis, Davenport's and Beck's views on television are as much informed by old-fashioned hierarchies of cultural value (in which reading forever trumps viewing, no matter how much attention viewers invest in training their DVRs) as they are by popular perceptions of the contemporary information overload. Still, their remarks are suggestive of the ways in which the audits attention managers perform on their own television viewing might transform their experiences of viewing. While Davenport and Beck had in mind using DVRs to fast forward through advertisements, Leo Laporte and Gareth Branwyn, the authors of a book-length introduction to the features and functions of DVRs, suggested that viewers might go a step further, and watch most or all their programming in fast forward. With a DVR, they explained, "you'll find yourself wanting to accelerate everything … You'll fast forward through intros, setups, tired action sequences in movies …, or other uninteresting parts." Owing to the formulaic nature of much popular programming, it was not actually necessary to watch the entirety of many television shows. To stretch one's time and attention, Laporte and Branwyn

[90] T Davenport and Beck, *The Attention Economy*, pp. 88, 91.

recommended, "[y]ou simply record the program, watch the first 10 minutes, fast-forward through the middle 40 (stopping to watch anything that looks particularly interesting), and then watch the last 10. You'll be amazed how many shows you can watch this way and still feel like you're getting a satisfying viewing experience."[91] In 2003 the men's magazine *Esquire* outlined a similar strategy for hyper-efficient viewing. According to *Esquire*:

> To watch TV faster, you're going to need to get TiVo. That's the first thing. Once you've got that and have recorded your favorite shows, turn on the closed captioning. (All new TVs have it.) Now comes the beauty part. Press fast-forward on the TiVo. The captioned dialogue will appear quickly – but you'll still be able to read every word. You can read *Everybody Loves Raymond* in eight minutes. *Law & Order* will take a beautifully efficient fifteen. *Saturday Night Live*? With all the skippable crap, it notches in at about eleven.[92]

In a nod to the speed reading tips long featured in the pages of men's magazines including *Esquire*, we might call this practice "speed viewing."[93] Like speed

---

[91] Laporte and Branwyn, *Leo Laporte's Guide to TiVo*, pp. 64, 89-90.
[92] Bruce Stockler, A.J. Jacobs, Andy Ward, "The Hurried Man," *Esquire* vol. 139 no. 2 (February 1, 2003).
[93] From their regular features on time-saving gadgets and speed reading techniques to the prominent place they have traditionally afforded to short fiction, men's magazines have long equated manliness and masculine discrimination with temporal, textual, and emotional economy. See, for instance, Bill Osgerby, *Playboys in Paradise: Masculinity, Youth and Leisure-Style in Modern America*

reading, speed viewing endeavors to increase the yield of its practitioners' attention by equipping them to separate useful information from "irrelevant" or "extraneous" content – or, in *Esquire*'s words, "skippable crap." Consumption is in both of these activities reimagined as an exercise in efficient information processing, the purpose of which is not to "get lost in the story," but instead to merely "get the story." In other words, as the subtitles fly by on screen, plot revelations trump the pleasures that are to be had by patiently immersing oneself in a text's diegetic universe.

Considered in this light, the distanciating effect Chamberlain describes need not be regarded as an unfortunate byproduct of DVRs' graphical user interfaces, but instead might be thought of as a corollary of the intensely rational mode of television viewing that DVRs make possible. The clocks and progress bars DVRs project on screen quantify the "costs" of television for its viewers, and at the same time attest to the savings viewers achieve by using DVRs to streamline their viewing. In this fashion, DVRs incessantly justify their owners' substantial cash outlays on hardware and monthly service via their running tallies of their viewers' outlays of attention. All this is not to say that DVR users necessarily watch less TV; on the contrary, numerous studies have suggested the owners of DVRs watch as much as five or six additional hours of television

---

(London: Berg, 2001); Barbara Ehrenreich, *The Hearts of Men: American Dreams and the Flight from Commitment* (New York: Anchor Books, 1984), ch. 4.

each week.[94] The DVR's remedial discourses justify these increases by suggesting that this is time (and attention) well spent. Hence, *Esquire*'s article insinuated that speed viewing does more than simply increase the yield on its practitioners' attention; in addition to making television more efficient, speed viewing also makes it *better*. The act of "reading" *Everybody Loves Raymond* and *Law & Order* injects these decidedly ordinary programs with an air of cultural legitimacy; indeed, one of the terms most frequently used to commend television shows of exceptionally high quality is "novelistic television."[95] Though still a far cry from the "primetime novels" beloved to middlebrow television critics (and though certainly not what Davenport and Beck had in mind when they suggested that DVRs would enable people to make more time for reading), in *Esquire*'s account speed viewing is a more "productive" alternative to watching programs in real time. For example, at a duration of one hour, *Saturday Night Live* is a waste of its audience's time. Reduced to eleven minutes by viewers who deftly use their DVRs to eliminate advertisements, credits, and previews, and beyond that to skip over the show's opening monologue, annoying sketches, and lip-synched music performances, the same show is redeemed.

The DVR's remedial discourses hint at a new way of relating to and judging television's texts, in which programs are evaluated not only on their

---

[94] Christine Rosen provides an overview of a number of these studies in "The Age of Egocasting," *The New Atlantis* no. 7 (Fall 2004/Winter 2005), 51-72.
[95] See, for instance, Charles McGrath, "The Triumph of the Prime-Time Novel" *New York Times* (October 22, 1995); Stephen Johnson, *Everything Bad Is Good for You: How Today's Popular Culture Is Actually Making Us Smarter* (New York: Riverhead Books, 2005)

narratives, performances, production values, or style, but also on their duration and pacing, and their suitability to viewers' attention budgets. Chamberlain alludes to this aesthetic, observing that particularly in on-line settings choices about what to watch frequently are made on the basis of (or at least are strongly influenced by) program durations. But though it may be true that digital technologies force into relief the temporal and attentional investments that viewers make as they watch television, television has always been an attention economy of sorts. Like radio before it, television is a technology for aggregating and commodifying attention (or at least a crude approximation of it, as represented by the Nielsen ratings) on a massive scale. As a technology that invites viewers to take a hands-on role in these processes, the DVR forms a crucial bridge between the attention economies of television and digital technologies, and of Fordism and post-Fordism as well. DVRs and other digital technologies refine and extend upon television's attention economy, making television an even more efficient technology of attention management. Yet technically speaking it is not DVRs that make this economy more efficient, but the viewers who use them to manage their attention investments. Viewers perform and in fact take pride in these acts of TV repair, as in reforming television, they are also reforming their selves, becoming more efficient and self-reliant managers of their own human capital in the process.

The "Daily Me" or the "Age of Egocasting"?

It is not only the promoters and proponents of digital television technologies who discuss devices like DVRs in terms of the obligations borne by television viewers. These technologies' detractors likewise speak of the responsibilities of television viewers, but do so mainly to accuse digital television technologies of allowing (or even encouraging) viewers to abandon these responsibilities. As much as digital television technologies have been celebrated for their potential to reinvent television and empower its audiences, they have also inspired their own fare share of complaints, many originating from television networks and studios. Beginning in the late 1990s, industry insiders used interviews, trade shows, and speeches as opportunities to voice their concerns about the impact DVRs in particular would have on advertiser-supported television. During this period, network executives – the same individuals viewers were invited to imagine tossing out of the windows of skyscrapers in TiVo's advertisements – admonished viewers for fast-forwarding through the advertisements in the programs they recorded on their DVRs, accusing them of reneging on the obligations they bore under the tacit agreement underwriting advertiser-supported television. Responding to a study that indicated that one in five DVR owners had ceased watching commercials altogether, Jamie C. Kellner, chief executive of Turner Broadcasting, reminded viewers that "'[t]he free television that we've all enjoyed for so many years is based on us watching these

commercials. There's no Santa Claus. If you don't watch the commercials, someone's going to have to pay for television and it's going to be you.'"[96] Elsewhere, Kellner argued that skipping commercials was tantamount to theft. "'Your contract with the network when you get the show is you're going to watch the spots,'" he explained. "'Otherwise you couldn't get the show on an ad-supported basis. Any time you skip a commercial you're actually stealing the programming.'"[97]

In statements like these, executives at once vilified and juvenilized their networks' audiences, simultaneously accusing them of cynically "stealing" "free" television programming and ridiculing them for being so childish as to believe that their crimes would go unpunished.[98] Similar language is to be found in the recording and motion picture industries' respective public relations campaigns against peer-to-peer file sharers from the late 1990s onward. In each of these contexts, representatives of media institutions impugn consumers for consuming media "incorrectly"– in other words, for consuming in ways that do not conform to the expectations and needs of established media companies and their sponsors.

---

[96] Amy Harmon, "Skip-the-Ads TV Has Madison Ave. Upset" *New York Times* (May 23, 2002): A1.
[97] Staci D. Kramer, "VOD's Ad-Skipping Irks Kellner" URL (Accessed March 1, 2004): http://www.kagan.com/archive/cableworld/2002/04/29/cwd141724.shtml/.
[98] Networks' PR campaigns against DVR users were accompanied by lawsuits against their manufacturers. In 2001, SonicBlue, the manufacturer of ReplayTV, was sued first by ABC, CBS, and NBC, and then in a second suit by a total of twenty-eight television studios and networks, for including in its DVRs a feature that made it possible to share digitally recorded videos over the Internet. Alan Krauss, "Broadcasters Sue Replay TV" *New York Times* (November 1, 2001): C6; Jennifer S. Lee, "Digital Video Recorders: First, ReplayTV Must Face the Courts" *New York Times* (November 23, 2001): C3.

As Ien Ang has shown, media institutions have a long history of responding to the novel forms of consumption new media technologies make possible by publicly denouncing these technologies' early adopters as capricious, untrustworthy, or irresponsible.[99] This strategy has proven particularly effective in the courtroom and in the chambers of Congress, where media institutions have portrayed themselves as the hapless victims of consumers who use unregulated technologies to help themselves to the hard work of the artists who interests these institutions represent. In part by painting themselves as altruistic patrons of the arts and their audiences as greedy and immature thieves, media institutions have successfully lobbied for the institution of more restrictive copyright laws, including the Digital Millennium Copyright Act, and stiff fines for those found guilty of "stealing" media. At the same time, they have contributed to the construction of an image of the new media user as a social pariah, a figure that, while common in popular discourse, stands in stark contrast to the heroic, technologically-adroit individuals that populate many promotional campaigns for new media devices.

Arguments such as these attribute impressive powers to new media audiences, granting them the ability to destroy the careers of artists, and even to decide the fate of entire industries. However, these arguments are anything but "empowering" in the sense that digital television technologies' remedial discourses can be. The proponents and promoters of digital television

---

[99] Ien Ang, *Desperately Seeking the Audience* (New York: Routledge, 1991), 73.

technologies configure viewers' responsibilities as *rights*, inciting television viewers to use their DVRs to take advantage of the liberties afforded to them under post-Fordism's flexible social contract. Within this framing of the responsibilities of media audiences, the obligations viewers bear are productive of better television and better viewers. In both respects, viewers are rewarded for carrying out their contractual obligations. By contrast, the television industry's critiques of DVRs responsibilize television viewers so as to justify the institution of various penalties designed to hold them accountable for their crimes. Responsibility becomes in this context the equivalent of culpability. Network executives assured the press that they would find ways of holding DVR scofflaws accountable, whether by filling programs with product placements, by working to create countertechnologies that would disable the fast-forward buttons on viewers' DVRs, or by abandoning advertiser-supported broadcasting altogether in favor of subscription or pay-per-view models. Yet, tellingly, at the same time, Kellner held out the possibility that networks might excuse viewers of this obligation … for a fee. At the 2002 meeting of the National Cable Television Association, Kellner suggested viewers pay $250 for the privilege to fast forward through commercials. For those who could afford this tariff, it would be possible to buy their way out of advertiser-supported television's "contract"; for those who could not, Kellner offered no choice but to keep watching commercials.[100]

---

[100] "NCTA Wrap-Up," *Broadcasting & Cable* (May 13, 2002): 1, 28.

Another critique of DVRs to emerge in this period likewise activated the responsibilities of television viewers, this time to argue for the separation of viewers' rights as consumers from their obligations as citizens. In his 2001 book *Republic.com*, legal scholar Cass Sunstein made the case that digital filtering technologies such as the ones that power "smart" DVRs like TiVo are incompatible with the nation's democratic ideals and, beyond that, pose a formidable threat to the democratic process. Of greatest concern to Sunstein were the ways that these technologies confound consumer sovereignty with political sovereignty, allowing the consumer's freedom of choice to overshadow the citizen's civic obligations.[101] As an illustration of his concerns, Sunstein noted Nicholas Negroponte's concept of "The Daily Me." In *Being Digital*, Negroponte had excitedly predicted that in a "digital world" it would become possible for each individual to receive a customized newspaper, tailored to his or her tastes and interests, and containing only stories on topics in which he or she was interested. In fact, Negroponte explained, the same principles of hyperpersonalization could be applied to any medium that could be digitally-delivered. Hence television viewers could program computer interface agents, or "digital butlers" to screen out television programming on their behalves, assembling archives of digitally recorded broadcasts for on-demand viewing.[102] Negroponte's dream of hyper-personalized media goods was shared by may others in this period. Indeed, the

---

[101] Cass Sunstein, *Republic.com* (Princeton, NJ: Princeton University Press, 2001), 46-7.
[102] Negroponte, *Being Digital*, pp. 152-4.

rationalities I have discussed above are predicated on digital technologies' theoretical ability to perfectly match people to media texts and the advertisements they contain.

For Negroponte, "The Daily Me" encapsulated the foremost promise of digital technologies: the personalized data streams prepared for people by their digital butlers would allow them to transcend the inefficiencies of synchronized mass media systems and an outdated mass market economy, empowering individuals to become more efficient entrepreneurs (and in effect consumers) of their own selves. For Sunstein, however, these same technologies of personalization raised the frightening prospect that digital filtering would grow so advanced and so ubiquitous that individuals would have no trouble installing themselves within hermetic and homogenous media enclosures where they could be guaranteed to never have to encounter people or viewpoints unlike their own. Conservative commentator Christine Rosen termed this practice "egocasting," arguing that a growing number of technologies, ranging from DVRs to iPods, encourage consumers to engage in this "thoroughly personalized and extremely narrow pursuit of one's personal taste," much to the detriment of the individual and society.[103] Contrary to cyber-enthusiasts, many of whom like Howard Rheingold argued that the Internet constituted an "electronic agora" that "could bring conviviality and understanding into our lives and … help revitalize the public sphere," Sunstein (and Rosen as well) foresaw a future in which filtering

[103] Rosen, "The Age of Egocasting," pp. 51-72.

technologies would partition the media, one of life's few remaining "commons," into innumerable atomized sectors populated only by likeminded individuals.[104] According to Sunstein, the consequences of such a turn of events would be catastrophic. Deliberative democracies, he claimed, depend on their media systems to provide surrogate public forums where citizens may vicariously gather and partake in shared experiences with one another and, in doing so, expose themselves to a wide variety of people and their perspectives. Without access to these common spaces, collectives Balkanize, extremism flourishes, and polarization prevails over dissent and deliberation.

Broadcast television and other "general interest media" were for Sunstein exemplary of this ideal of media as surrogate public forum. According to his logic, the scheduled transmission of broadcast programming offers audiences countless opportunities to participate in the shared rituals of watching television with thousands or millions of others. In the occasion of special events or national tragedies, these numbers grow exponentially, reaffirming and reinforcing the sense of "imagined community" that broadcasting fosters on an everyday basis.[105] Equally importantly, television's schedules are sources of the chance encounters that, according to Sunstein, open people's eyes to new topics and ideas. He writes:

---

[104] Howard Rheingold, *The Virtual Community: Homesteading on an Electronic Frontier* (Cambridge, MA: MIT University Press, 2000 [1993]), xxx.
[105] Anderson, *Imagined Communities*, p. 35; Brookes, "Research Note," p. 369-81.

> You might watch a particular television channel – perhaps you prefer channel 4 – and when your favorite program ends, you might see the beginning of another show, perhaps a drama that you would not have chosen in advance but that somehow catches your eye. … A system in which individuals lack control over the particular content that they see has a great deal in common with a public street, where you might encounter not only friends, but also a heterogeneous array of people engaged in a wide array of activities (including perhaps bank presidents and protestors and panhandlers).[106]

Significantly, Sunstein singled out and celebrated precisely those qualities of broadcast media that the promoters and proponents of new digital television technologies identify as constraining and wasteful. In his view, broadcasting is a suitable surrogate for the public sphere precisely because of the fact that the members of its audiences are all uniformly *not* in control of the programming they encounter. The arrangement of programs across the broadcast schedule was in Sunstein's estimation a source of the beneficent conflicts that deliberative democracies require in order to remain vital.[107] By contrast, technologies that, like DVRs, grant viewers the ability to program their own networks deprive their

---

[106] Sunstein, *Republic.com*, p. 12.
[107] Raymond Williams, *Television: Technology and Cultural Form* (London: Routledge Classics, 2003).

operators of the breadth of experiences and the change encounters they require in order to make informed contributions to the democratic process.

At many points throughout his book Sunstein warns of the futility and senselessness of nostalgia for the media of bygone eras, noting for instance how the general interest media of the past were themselves organized in a manner that systematically marginalized many populations and viewpoints. That said, at the core of his arguments about media and democracy lie ideologies forged during television's past – specifically, during the 1950s, at the height of the national network's hegemony. As William Boddy has shown, the idea that television serves as a surrogate public forum is to a large extent the product of public relations campaigns carried out by the networks during the 1950s by CBS and NBC. Facing congressional investigations into their oligopoly, executives of the two leading networks defended their companies' business practices by lecturing legislators and audiences on the networks' importance to the health of the nation's democracy. In fact, Boddy shows, in some contexts these executives transposed the network and the body politic, arguing that the two had in essence become one in the same. Such arguments rationalized the interconnection of local stations into oligopolistic networks – a necessity for the networks' economies of scale – as a form of national service imperative to the maintenance of an American national identity. Without the networks to bind the country together, CBS president Frank Stanton warned members of the House Committee on Interstate Commerce, the country would take "a colossal

backward step. … In fact, it would be a step in the direction the *Balkanization*, the fragmentation of the United States.'"[108]

Nearly fifty years later, Sunstein made this very logic the basis of his impassioned injunction against digital filtering technologies. But if Stanton argued that the nation would live or die by the strength of its television networks, Sunstein contended that ultimately it was the audience, and not the media institutions that served it, that would decide the fate of the nation's democracy. In this manner, Sunstein melded postwar network PR with the political philosophies of Benjamin Franklin and Supreme Court Justice Louis Brandeis, explaining that "active engagement in politics, at least some of the time, is an obligation, not just an entitlement."[109] Amongst the most immediate ways that citizens can meet this obligation, he suggested, is by remaining open to the serendipitous encounters with difference that media like broadcast television can offer. Though Sunstein was highly critical of political and cultural developments that, in his estimation, allowed consumer sovereignty and political obligation to merge, the model of good citizenship that he proposed was suspiciously close to the productive ideals outlined by the DVR's discourses of TV repair. Put simply, the key to good citizenship was in Sunstein's account to consume media wisely, taking advantage of the capacities of new and old media technologies to ensure one's media diet maintained a proper mix and balance.

---

[108] Quoted in Boddy, *New Media and Popular Imagination*, p. 101.
[109] Sunstein, *Republic.com*, pp. 47-8.

The critiques outlined by Kellner and Sunstein bring into relief the double bind in which television viewers found themselves in the late 1990s and early 2000s. On one hand, viewers received great encouragement to use DVRs and a host of other digital television technologies to more efficiently perform their duties as citizens and consumers. On the other, they simultaneously faced censure or even punishment for using the same technologies to carry out these responsibilities *too* efficiently. This is the fate of advanced liberal societies' entrepreneurially-minded citizen-consumers: to perpetually be working on improving their selves, their families, and their societies, only to be told at every turn that they are coming up short. To these enterprising individuals, television offers many opportunities to grow their human capital, as well as a never-ending source of problems that threaten to undo their hard work. Fortunately, or perhaps unfortunately from the television audience's perspective, there is always another gadget on the horizon that promises to bring us one step closer to self-realization, and television one step closer to perfection. Hence if DVRs cannot help us carry out our multiple interlocking obligations as consumers and citizens, then perhaps personal computers, video sharing websites like YouTube.com, or mobile television devices can.

Four
Television's Placeless Mobile Future

In June 2007, the South Korean consumer electronics manufacturer LG sponsored a party "celebrating the past, present and future of television" on the lot at Paramount Studios in Los Angeles. The occasion was the introduction of a new cell phone capable of tuning in specially-encoded live television signals on its 2.2 inch color LCD screen. After walking the red carpet and posing for the paparazzi, celebrity guests including Chris "Peter Brady" Knight, George "Sulu" Takei, and Scott "Chachi" Baio were ushered through an exhibition of iconic television technologies. Commencing with 10-inch Zeniths and culminating with the cell phone, LG's "living timeline of television history" rendered the medium's past as a journey from the small screens of yesteryear to the even smaller screens of today. Upon exiting this "living timeline," the stars of programs like *The Brady Bunch*, *Star Trek*, and *Happy Days* found themselves on the floor of a cavernous soundstage containing life-sized reproductions of the sets of the series that had initially made them famous. Mingling within recreations of the Brady family living room, the bridge of the Space Shuttle *Enterprise*, and Arnold's

Drive-In, the stars of television's past came face to face with LG's vision of its "placeless" mobile future.[1]

As was much in evidence on Paramount's soundstage, television's convergence with mobile media devices has been accompanied by a renewed fascination with the material trappings of television history. Consumer electronics manufacturers like LG invoke television's humble technological origins to position devices like cell phones or portable media players as the culmination of more than six decades of technological progress, reminding us of just how far television's technologies have come since the 1940s. LG's "living timeline of television history" consecrates artifacts from the medium's past within a museum-like setting, but at the same time relegates them to the status of a backdrop against which the marvels of the cell phone TV may better be appreciated. Within the space of LG's display, these "primitive" relics are repackaged for ironic consumption, much like the D-list celebrities and former child stars in attendance that evening.

As an alternative to the unbroken linear trajectory of LG's timeline, this final chapter offers a discontinuous genealogy of mobile television. Taken literally, mobile television refers to any technology that would allow viewers to bring television with them as they move within and beyond the home. But as a technology of TV repair, mobile television has always been about more than just portability of the receiver itself. Mobile television technologies are expressive of a

---

[1] "Backstage at the Mobile TV Party," URL (Accessed December 21, 2007): http://www.lifewithlg.com/lg-events-9400/.

much broader array of cultural fantasies about travel and exploration, as well as about those *virtual* forms of mobility experienced by media audiences.[2] Deeply ingrained within these fantasies of real and imaginary movements through physical and representational spaces are powerful ideologies about mobility and stasis. As Tim Cresswell notes,

> [i]n contemporary social thought, words associated with mobility are unremittingly positive. If something is said to be fluid, dynamic, in flux, or simply mobile, then it is seen to be progressive, exciting, and contemporary. If, on the other hand, something is said to be rooted, based on foundations, static, or bounded, then it is seen to be reactionary, dull, and of the past.[3]

To call a new television technology "mobile" is to positively evaluate it, and, moreover, to position it as an improvement upon what are, by contrast, television's *im*mobile technologies of domestic reception. For despite television's

---

[2] See Lynn Spigel, "Portable TV: Studies in Domestic Space Travel" in *Welcome to the Dreamhouse: Popular Media and Postwar Suburbia* (Durham: Duke University Press, 2001), 60-103.

[3] Tim Cresswell, *On the Move: Mobility in the Modern Western World* (London: Routledge, 2006), 25. Importantly, Cresswell notes that this has not always been the case. In prior historical moments, mobility was considered to be disconcertingly transgressive, whereas immobility was aligned with settledness, roots, and the perpetuation of moral, religious, or cultural tradition. Indeed, in certain contexts, and with regards to certain forms of mobility, this way of understanding the relation between mobility and immobility remains pertinent. For a more detailed discussion of the shifting valuations of mobility and stasis, see Cresswell, *On the Move*, pp. 25-56.

links to persistent cultural fantasies of mediated mobility, television remains, first and foremost, a domestic medium, attached to the home not only by the cables that tether the receiver to the wall, but also by sedimented social practices and economic arrangements inherited from prior domestic media.[4] In countless advertisements and pop culture texts mobile technologies are depicted in the hands of emancipated viewers, freshly liberated from their domestic incarceration at the hands of television. Mobile television is, within the context of these remedial discourses, an improvement upon television precisely because it is *placeless*, and unburdened by television's attachments to domesticity and a stifling and sedentary suburban way of life.

A closer consideration of these remedial discourses reveals that mobile television is anything but placeless. Far from it, mobile television's remedial discourses are characterized by their attachments to a nostalgic rendering of television's domestic past, and their valorization of forms of consumption that endeavor to domesticate or privatize public spaces. In popular representations of mobile television technologies, viewers use cell phones or portable media players to navigate and control the environments through which they travel as they might their television sets. But if the practice of watching television outside the home on a cell phone or portable media player can be said to transform viewers' experiences of public and private spaces, it must duly be noted that

---

[4] This is despite the fact that many early installations of television were in non-domestic spaces, including department stores, taverns, and theaters. See Anna McCarthy, *Ambient Television* (Durham, NC: Duke University Press, 2001).

these transformations ultimately leave undisturbed the bourgeois ideology that underwrites the division of the world into gendered public and private spheres. It is here that the conservative orientation of this project of TV repair becomes most clear. In contradiction to the arguments of de Certeau, Bahktin, and Deleuze and Guattari, and other poststructuralist theorists who have equated mobility with transgression, resistance, and the power of the subaltern, mobile television's remedial discourses portray mobility as a means of colonizing physical and representational spaces for the benefit and enjoyment of privileged consumer subjects.[5] The movements of the mobile viewer little resemble the evasive trajectories of de Certeau's fugitive pedestrian or the "lines of flight" traversed by Deleuze and Guattari's itinerant nomads. Instead, they retrace the well-worn pathways through which power and capital flow, transporting the viewer from the privacy of the domestic sphere to the privacy of the fully commodified public sphere and back again. Viewed in this light, the scale model of the Bradys' living room recreated on Paramount's soundstage in honor of LG's Mobile TV Party is doubly significant. Spatially, as well as symbolically, it is representative of both that which mobile viewers are imagined to be moving away from and that which they are headed towards.

---

[5] Cresswell identifies these theorists with an emergent *nomadic metaphysics*, or a pervasive worldview that understands mobility to be liberating, invigorating, and even subversive, and therefore a vehicle for meaningful social transformation. *On the Move*, pp. 46-56. For illustrations of this nomadic metaphysics, see Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984); Mikhail Bahktin, *Rabelais and His World* (Bloomington, IN: Indiana University Press, 1984); Gilles Deleuze and Félix Guattari (trans. Brian Massumi) *Nomadology: The War Machine* (New York: Semiotext(e), 1986).

Mobile-izing TV

The MediaFLO system employed by LG's cell phone TV is but the latest in a long succession of attempts to marry the mobile media devices and the television receiver. As early as 2000, television networks and studios began offering viewers opportunities to "interact" with programming via their cell phones and personal digital assistants (PDAs). Early forays into TV-mobile media convergence included websites that could be viewed on wireless devices, and reality programs and game show formats that solicited viewers to send text messages to cast their votes for favorite contestants.[6] By the early 2000s, competition amongst mobile network operators for subscribers had driven voice communication rates so low that operators' average revenue per user (the industry's primary measure of profitability) had plummeted. Seeking to increase revenues, network operators began promoting an array of data services, including SMS, mobile web browsing, adult services, video games, music downloads and ringtones, and, starting in 2003, mobile video services. The first dedicated cell phone video service was introduced in the U.S. in 2003 by the multimedia company RealNetworks. RealOne Mobile delivered television news, sports, and weather updates, broken into thirty-second clips, to cell phones via the Sprint PCS network. With frame rates of only four frames per second (fps) (as opposed to the broadcast-standard thirty fps), RealNetworks' mobile television service more closely resembled an Internet slide show than full-motion

[6] Ken Kerschbaumer, "Up a 'Creek' with Wireless Devices" *Broadcasting & Cable* vol. 130 no. 19 (May 1, 2000): 84.

broadcast television.[7] Still, despite the limits network architecture placed on image quality and clip duration, mobile network operators identified television as an important growth market for their industry.

Since 2003, mobile network operators have pursued multiple methods for delivering television and video programming to cell phones and portable media players. In November of that year, startup MobiTV began delivering live streaming television programming from The Discovery Channel, The Learning Channel, and other television networks to Sprint subscribers. In 2005, GoTV, another content aggregator, formed partnerships with a number of network operators to provide a mobile television service heavy on music videos and condensed trailers and recaps of primetime network series. Also in 2005, Verizon introduced the V CAST multimedia network, and Disney subsidiary ESPN launched a sports-themed multimedia service called Mobile ESPN. Soon after, Amp'd Mobile, a venture backed by MTV and Universal Music Group, began operating a multimedia service aimed at the youth market. Amongst these competing services, aggregators GoTV and MobiTV assembled a selection of channels that could be "streamcast" over cellular networks.[8] V CAST, ESPN, and Amp'd, on the other hand, began as "clipcast" services, presenting short video snippets on an on-demand basis. Though coverage could be restricted to major

---

[7] Ken Kerschbaumer, "RealOne Goes Mobile" *Broadcasting & Cable* vol. 133 no. 33 (August 18, 2003): 22.

[8] Streamcasting systems emulate the experience of watching "live" broadcast television, presenting viewers with a variety of channels from which they may chose.

metropolitan areas, with the launch of these services, mobile network operators moved closer towards their goal of establishing alternative revenue streams that would compensate for the slim margins they earned on their voice communications services.

While firsts in the U.S. market, these services commenced their operations years after mobile television became available to viewers in other parts of the world. The U.S. has generally lagged behind European and Asian markets in the adoption of mobile communications technologies, and mobile television has been no exception. As early as 2000, a Swedish company named Popwire had developed a means of transmitting video over high-bandwidth third generation (3G) mobile networks.[9] By 2005, the global wireless service Vodafone was offering original short-form programming based on the television series *24* to subscribers of its Vodafone Live! 3G service in the United Kingdom. By comparison, as of mid-2008, U.S. carriers were still in the process of building up the nationwide infrastructure required to transmit TV-quality video to mobile devices over cellular networks. As a result, in the U.S., mobile television services that rely on cellular network architecture continue to be plagued from bandwidth-related problems, including pixilation, long load times, and frequent interruptions to their video feeds.

The persistence of these technological hurdles has given telecommunication conglomerates and consumer electronics manufacturers

---

[9] Coco Masters, “Programming Provocateurs” *Time* (March 8, 2007).

incentives to experiment with novel transmission, reception, and storage solutions, and content creators and aggregators with programming formats suitable to the limits of existing hardware and infrastructure.[10] Some of these solutions bypassed the wireless network bottleneck by having viewers load programming directly onto portable media devices. The DVR manufacturer TiVo, for instance, introduced TiVo to Go, a software upgrade that enabled subscribers to transfer recorded broadcasts from their DVRs to computers, PDAs, and other digital devices in 2004. Others utilized existing high bandwidth networks, including the Internet. Also in 2004, Slingbox introduced an eponymous device that enabled television sets and DVRs to be connected to the Internet, allowing viewers to remotely access their home receivers from networked computers or cell phones. But of the many technologies devised to contravene the restrictions imposed on mobile television by the bandwidth of the U.S. cellular network, none had as significant an impact as the video iPod, a version of Apple's portable music jukebox introduced in 2005. Lacking wireless capabilities, the video iPod was incapable of accessing clip- and streamcast services. Instead, iPod owners were required to transfer programs purchased from Apple, obtained online, recorded off television, or copied off of commercially-released DVDs onto their media players for viewing on the go.

---

[10] For more on mobile television programming, see Max Dawson "Little Players, Big Shows: Format, Narration, and Style on Television's New Smaller Screens," *Convergence* vol.13 no. 3 (August 2007): 231-50.

In conjunction with the video iPod's launch, Apple secured the rights to distribute downloadable versions of popular ABC series, including *Desperate Housewives* and *Lost*, via its iTunes digital music store for $1.99. Within twenty days, Apple had sold one million videos in the U.S. alone. Apple's success as retailer of television programming was the first indication of mobile television's economic viability beyond a limited niche market of cutting-edge early adopters and mobile gadget enthusiasts. Before long, most American broadcast and cable networks were offering a selection of programming via iTunes. That following spring, when the U.S. broadcast networks announced their lineups for the upcoming fall television season, network executives made a point of insisting that from that point on all of their primetime programs would be made available to mobile devices, either in the form of full episode iTunes downloads, short-form "minisodes" creating expressly for playback on cell phones, cut-down episode highlight reels, behind the scenes documentaries and interviews, or other exclusives.[11]

Though credited with establishing the market for mobile television, the iPod differs from the majority of the mobile television devices introduced in this period in that it lacks wireless capabilities, and therefore can only access new programming when tethered to a computer. The differences between these mobile television paradigms are illustrative of the distinction between what Amanda Lotz terms *portable* and *mobile* uses of television. "In sum," Lotz writes,

---

[11] Stuart Elliot, "NBC Looks Beyond TV for a Prime-Time Revival" *New York Times* (May 16, 2005).

"mobile television technologies allow out-of-the-home live viewing, while portable technologies expand viewers' control by enabling them to take once domestic-bound content anywhere to view at anytime."[12] Lotz differentiates between portable and mobile television primarily in terms of their respective tenses. Mobile television is "live," not in the sense that it includes exclusively real-time transmissions of unfolding events, but because with devices like LG's cell phone TV, programming is ephemeral, and viewed synchronously with its transmission.[13] Portable television is, by contrast, "canned," and stored at the receiving end. Before out-of-home viewing on a video iPod may take place, the viewer must first transfer the programs to be watched onto a computer, and then from the computer to the iPod itself. These differences of tense, Lotz contends, reflect the different motivations and desires that drive the use of portable and mobile television technologies. Whereas portable television indulges the audiences' desire for convenience, enabling them to both time- and placeshift television, mobile television promises to recreate the immediacy of "live" television in settings other than the home.

---

[12] Amanda D. Lotz, *The Television Will Be Revolutionized* (New York: NYU Press, 2007), 60.

[13] This definition reflects a more generalized shift in the meaning of "live television." In popular parlance, as in industrial discourse, "live television" no longer solely designates the "real-time" coverage of news, sports, or special media events. Rather, it has become synonymous with a quotidian mode of *reception*, carried out in isolated individual households, without the temporal mediation of digital timeshifting technologies. This is particularly the case with cell phone TV systems. Because they must be processed, compressed, and in some cases re-edited before transmission, cell phone TV feeds are *not* concurrent with over the air broadcasts.

Lotz's categories go a long way towards clarifying the properties and uses of the numerous devices and systems introduced since 2003 to enable out-of-home viewing. That said, for the remainder of this chapter I discard these categories in favor of the catch-all term "mobile television."[14] Doing so entails sacrificing the precision of Lotz's two categories for an opportunity to more closely engage with that which these devices and systems share. These commonalities are not found at the level of design or implementation, but rather in the cultural meanings they carry. These meanings have been shaped by cultural fantasies about "repairing" television by relocating it – and the private pleasures it affords its audiences – into spaces that lie outside the home's four walls. Conceived of in this manner, the temporal distinction Lotz draws between "portable" and "mobile" television melts away, revealing a set of *spatial* preoccupations centered upon television's location at the intersection of the domestic, public, and media spheres. In the following sections, I use "mobile television" to refer not just to a category of technological artifacts or material practices, but also to a body of ideas about television audiences' experiences of this intersection of referential and mediated spaces. These ideas are unstable, and frequently contradictory, indicating at once the seemingly paradoxical

---

[14] In doing so, I follow the lead of those involved in programming television's mobile screens. As a 2005 article in the TV industry trade journal *Broadcasting & Cable* put it, mobile television includes everything from "programming burned onto a DVD to satellite TV beamed to an auto to a video cellphone or Wi-Fi services that help consumers stream videos." Joe Mandese, "Advertisers Are Standing Still On Mobile ... for Now" *Broadcasting & Cable* vol. 135 no. 39 (September 26, 2005): 14.

inclinations to transgress and maintain the social and spatial boundaries that television demarcates.

Couch Potatoes without Couches?

From the "Armchair Columbus" to *Rain Man*

Since television's advent, fantasies of mobile television and televisual mobility have been central to audiences' understandings and experiences of the medium. As Raymond Williams has observed, television expresses and, to a certain extent, attenuates one of modernity's defining contradictions, namely the tensions brought about by, on the one hand, new forms of conveyance and social mobility and, on the other, the decidedly privatized character of modern life. Broadcasting, according to Williams, affords the audience a vicarious mobility enjoyed within the privacy of their own homes, a mode of experience he termed "mobile privatization."[15] Vicarious mobility was a dominant theme of representations of television even before the production of receivers recommenced following World War II. In one 1944 DuMont advertisement, for example, a seated spectator is compared to an "Armchair Columbus" setting "sail with television through vanishing horizons into exciting new worlds," all without having to get up from his comfortable easy chair.[16] In popular representations of

---

[15] Raymond Williams, *Television: Technology and Cultural Form* (London: Routledge Classics, 2003), 19-21.
[16] Reproduced in Matthew Geller (ed.) *From Receiver to Remote Control: The TV* (New York: The New Museum of Contemporary Art, 1990), 132. This advertisement is also described in Cecelia Tichi, *Electronic Hearth: Creating an*

television from this early period, the immobility of the bulky receiver was offset by images of viewers taking literal and imaginative voyages via their televisions. These mediated experiences of mobility required no actual movement on the part of the television receiver or its spectators. On the contrary, via the wonders of live transmission, the world was miraculously transported into suburban living rooms, where it would be "served to [the audience] on a silver screen" to be consumed within the comfort and safety of the private home.[17]

Despite assurances that television would make it possible for viewers to explore the globe without leaving their own homes, the "physical inertia" of the television audience remained a source of vexation for leisure reformers, social critics, and audience members.[18] The television viewer's sedentarism appeared to undercut an American tradition of activism that equated mobility with civic responsibility, class privilege, and masculine prerogative. As Cecilia Tichi and Lynn Spigel both note, over the course of subsequent decades, consumer electronics manufacturers would address these considerations in advertisements for portable television receivers. In these advertisements, a new set of fantasies about mobile television emerged, as the vicarious mobility of the Armchair Columbus was supplanted by images of television – and its spectators – in

---

American Television Culture (New York: Oxford University Press, 1991), 15, and William Boddy, *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States* (New York: Oxford University Press, 2004), 132.

[17] This quote is taken from the "Armchair Columbus" advertisement. See also Lynn Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), 99-119.

[18] Cecilia Tichi, *Electronic Hearth*, p. 89.

motion. Countless advertisements for portable receivers portrayed viewers watching television out of doors, combining the vicarious experiences of travel that television afforded its audiences with the excitement and adventure of actual geographic mobility and exploration.

Inverting Williams' "mobile privatization," Spigel coins the term "privatized mobility" to describe the ideology that animated this push to "mobilize" television.[19] As Spigel demonstrates, cultural fantasies of privatized mobility were stoked by and represented in architecture and interior design, the rhetoric of Kennedy's New Frontier, media coverage of the Space Race, and the women's and Civil Rights movements' fights to secure equal access to social and geographic mobility. Such sentiments were also encouraged by consumer electronics manufacturers, who heavily promoted portable and tabletop receivers once it became apparent that the market for consoles would shortly be exhausted. Advertisements represented the streamlined and transistorized portables as technological advances on bulky and immobile vacuum tube-based console models. Not only were the new sets portable; they also warmed up faster, tuned more easily, and were less susceptible to channel drift. Such technological advances pushed both the set and the act of viewing closer towards streamlined "perfection," making television more efficient by automating many of the tuning functions viewers previously had to get out of their chairs to perform. But, as Spigel notes, as product designs and marketing campaigns

[19] Lynn Spigel, "Portable Television," p. 71.

invited viewers to imagine taking their televisions with them as they explored exotic locales, the tuning advances that went into these smaller sets may have actually made viewing an even more sessile experience. That is, though these sets were built to move, they were also built to spare their viewers the chore of having to move across the room to tune them (84).

These ambivalent fantasies of mobile privatization would resurface in an altogether different context in the late 1960s and 1970s, as artists, activists, and media guerillas took up portable video equipment in an attempt to establish alternatives to commercial broadcast television (see chapter 2).[20] As Spigel notes, some videomakers and theorists identified video as a form of mobile television, or television liberated from the social and architectural confines of bourgeois domesticity.[21] Crucially, with devices like the Sony Porta-pak, both the means of television production and reception became portable and accessible. According to doctrinaires like Raindance's Michael Shamberg, this meant that video belonged anywhere but the home. Typical exhibition venues for early experiments with portable video included geodesic domes, inflatables, communes, crash pads, and other spaces in which alternative forms of domesticity were explored. Because videotape required no processing and could be played back immediately, any location – indoor or out – could potentially play host to an impromptu screening. This quality of video inspired Shamberg to

---

[20] ibid., p. 99 n. 46.
[21] Gregory Battcock, "The Sociology of the Set," in Douglas David and Allison Simmons (eds.), *The New Television: A Public/Private Art* (Cambridge: MIT Press, 1977), 18.

fantasize that videomakers would one day become “cybernetic nomads,” enlightening and emancipating audiences across the country as they embarked on journeys inspired equally by the peripatetic Beats, Ken Kesey’s Merry Pranksters, and the Soviet agitprop film trains. Groups like the Videofreex, Ant Farm, and Fobile Muck Truck came the closest to realizing this goal. Loading their gear and tapes into roving media busses and vans, they set out to expose people in rural areas to the transformative capabilities of video while at the same time expanding their own consciousnesses through non-stop videomaking and travel. For example, the Videofreex, through their Rockefeller Grant-supported Media Bus project, transported with them a giant inflatable screen as they toured around upstate New York conducting hands-on demonstrations of portable video technology. Other groups projected their videos on the sides of buildings, or displayed tapes on massive video walls, assemblages that piled upwards of dozens of sets upon one another. Innovations such as these enabled video collectives to screen their programs to expanded audiences, transforming television viewing from an act carried out in small numbers, or even in solitude, within the home to an unstructured public happening.[22] By estranging the televisual image from both its domestic context and the familiar rectilinear frame provided to it by the conventional home receiver, videomakers announced their

[22] In a similar vein, video artists constructed installation pieces that placed television sets in unfamiliar environments, thereby “defamiliariz[ing] video from its object status in the privatized home environment.” See Lynn Spigel, “Epilogue,” in *TV By Design* (Chicago: University of Chicago Press, 2008).

medium's singularity, and defied its incorporation into the everyday spaces of television.

The cultural meanings of mobile television underwent yet another significant transformation in the 1980s as advances in display technologies, including the development of flat picture tubes and small, low-powered liquid crystal displays (LCDs), made miniaturized pocket televisions both technically and economically feasible. These display technologies appeared in consumer products such as Sony's pocket television "Watchman" at the very moment when the American middle class was observed to be retreating into domestic enclaves in a phenomenon marketers termed "cocooning."[23] According to contemporary accounts of this lifestyle trend, on the heels the hedonistic 1970s, a significant number of American spent the 1980s rediscovering the pleasures of a home-centered way of life they nostalgically associated with childhoods spent in front of the family television set. Central to this way of life were new television technologies, including the cable TV and the VCR, which enabled cocooning boomers to infinitely relive moments from their – and television's – pasts. As *Forbes* reported, "Yuppies who bopped till they dropped in the disco Seventies are staying at home popping corn in the microwave and catching a flick on the VCR."[24] Press coverage of this phenomenon drew explicit parallels between the cocooning yuppies of the 1980s and 1950s stay-at-home suburbanites,

---

[23] See Faith Popcorn, *The Popcorn Report: Faith Popcorn on the Future of Your Company, Your World, Your Life* (New York: Doubleday, 1991).
[24] Frederick Hiroshi Katayama, "A Man's Home Is His Castle" *Fortune* vol. 117 no. 11 (May 23, 1988): 9.

interpreting this turn inwards as an indication that baby boomers were gravitating towards the conservative social and economic values of their parents' generation.[25] Far from run-of-the-mill "couch potatoes" (another term that gained prominence in this period), the cocooning yuppies were portrayed as committed converts to a traditional way of life defined in direct contrast to the permissiveness of prior decades. Wrote *Newsweek*: "Today you are frightened of sex. You have said no to drugs. You feel that rock and roll sounds better on your home CD player than in the clubs. You come home from your long workday exhausted. You stay home, eat takeout food and slide a Preston Sturges classic into the VCR."[26] In reports like this one, cocooning was shown to have aesthetic, moral, and aesthetic implications; commentators commended cocooners for their tastes and values, and credited them with stimulating a boom in spending on consumer durables.[27]

It was in the midst of this domestic cocooning trend that consumer electronics manufacturers began marketing the next generation of mobile television receivers. Devices like the Sony Watchman (introduced in 1982) were battery-powered, capable of tuning in the full spectrum of VHF and UHF transmissions, and small enough to be tucked into a pocket. Manufacturers

---

[25] For more on this turn towards conservative values, see Jane Feuer, *Seeing Through the Eighties: Television and Reaganism* (Durham, NC: Duke University Press, 1995).

[26] John Schwartz, "Cocooner, This Spud's for You," *Newsweek* (October 26, 1987): 73.

[27] Maureen Boyle Gray, "Consumer Spending on Durables and Services in the 1980s" *Monthly Labor Review* vol. 115 no. 5 (May 1992): 18-26.

promoted these devices much like Sony did its widely popular Walkman personal cassette players, presenting portable television as an essential component of a modern, on-the-go consumer lifestyle. A brochure for a handheld Casio television explained: "Television. It's an important part of your active, information-oriented life. But more than not, if you're away from your living room, you're also away from your TV. … The TV-6100 gives you high-quality TV action that keeps up with your active lifestyle."[28] Casio's brochure portrayed television as both a component of and an impediment to this "active, information-oriented life." The handheld receiver, by contrast, presented viewers with the best of both worlds, so to speak, freeing them to get out and experience the world without asking them to forfeit their access to the mediated elsewheres presented by television. In promotional materials such as this brochure, the ideologies of mobile privatization and privatized mobility appear to merge, reconciling the cocooning lifestyle of the 1980s couch potato (and his mythical 1950s forbearers) with the mobile consumer lifestyles of the 1960s and 1970s. Crucially, this solution abstracted these mobile and sessile lifestyles from the social and economic contexts in which they were embedded, framing mobility as a technological effect, rather than a social privilege.

Manufacturers marketed the new pocket televisions primarily to business travelers and sports fans, touting their portability and the pleasures of watching

[28] Casio, "Color LCD Television TV-6100" (Brochure, 1987): 2.

television – and, in particular, live coverage of sporting events – on the go.[29] But despite manufacturers' efforts to position the handheld television receiver as a technological bridge between the homey pleasures of private life and the joys of unlimited public mobility, devices like the Sony Watchman and the Casio TV-6100 did not become symbols of activity and athleticism. Instead, they assumed an altogether different set of connotations, suggesting a solipsistic withdrawal from human contact, and a form of social autism in which mediated experiences supplanted immediate engagement with the here and now. Perhaps the most iconic mobile television viewer of this period was Dustin Hoffman's autistic savant character Raymond in the 1988 film *Rain Man*. The Sony FD-40 Watchman Raymond clutched during his daily ritual of watching *The People's Court* became a symptom of the character's morbid self-absorption and disconnection from reality. For Raymond, mobile television did not foster new ways of connecting with the world, but rather offered a means of escaping its chaos for the orderliness and routine provided to his life by the television timetable and the convalescent home where he had been institutionalized for the majority of his life. More interested in peering into his television's tiny screen than in the dramatic scenery he and his brother traverse over the course of their journey across the country's back roads, Raymond was, in effect, a spectator to his own journey. In Raymond's hands, the Watchman became a means of *arresting motion*, and of

[29] An early version of the Watchman was branded with the logos of professional football teams, underscoring portable television's associations with active, athletic lifestyles.

recreating the stability of institutional life in the midst of radical and life-altering flux.

Mobile Connections

Rain Man's unflattering portrait of mobile television viewing is in many ways as idiosyncratic as its protagonist and namesake. Nonetheless, it is possible to regard this film as characteristic of a more general tendency to look upon public media consumption with derision or suspicion. Despite a long history of attempts to position mobile devices as improvements on the immobile domestic television receiver, since the nineteenth century, social critics and popular pundits have condemned the public consumption of media on civic, aesthetic, and moral grounds. For instance, Wolfgang Schivelbusch has shown that in the 1800s writers lamented train passengers' preference for printed matter over conversation, observing that reading deprived the railways of the conviviality of coach travel.[30] Nearly a century later, the Sony Walkman and other similar personal stereos were subjects of controversy when conservative pundits accused youth of using their headphones to disconnect from their surroundings.[31] More recently, there has been widespread moral indignation over the use of cell

---

[30] Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Time and Space in the 19th Century* (Berkeley: University of California Press, 1986), 74.

[31] Paul du Gay et. al., *Doing Cultural Studies: The Story of The Sony Walkman* (London: Open University Press, 1997), 92.

phones in ~~the~~ shared spaces.[32] At the heart of criticisms of these practices lie concerns over the visible ways that mobile media disturb sacrosanct social and spatial orders. This quality is by no means unique to mobile media. Media technologies like the telephone, radio, and television all in their own ways confound ideologies of privacy and publicity, particularly as they are mapped onto domestic and non-domestic spaces. That said, they do so primarily by opening the home to the world outside its doors. The novel, the Walkman, and the cell phone all, by contrast, introduce elements of private life into public spaces. As Michael Bull suggests, these mobile media are "privatizing technologies" that enable and in fact invite their users to carve out "'media saturated' spaces of intimacy" within non-domestic environments.[33] For over a century, critics of mobile media use have interpreted the presence of these intimate practices in public spaces as, on the one hand, a willful withdrawal from public life and, on the other hand, an inconsiderate imposition of one's intimate affairs and pleasures into shared environments. Mobile media is, within the context of this historical critique, media that is consumed outside of its proper place, and to consume media in public is to simultaneously absent oneself from

---

[32] See, for instance, Mizuko Ito, "Introduction: Personal, Portable, Pedestrian" in Mizuko Ito, Daisuke Okabe, and Misa Matsuda (eds.) Personal, Portable, Pedestrian: Mobile Phones in Japanese Life (Cambridge, MA: MIT University Press, 2006), 25-7; Shin Dong Kim, "Korea: Personal Meanings" in James Katz and Mark Aakhus (eds.) *Perpetual Contact: Mobile Communication, Private Talk, Public Performance* (Cambridge: Cambridge University Press, 2002), 63-79.
[33] Michael Bull, "'To Each Their Own Bubble': Mobile Spaces of Sound in the City" in Nick Couldry and Anna McCarthy (eds.) *Mediaspace: Place, Scale, and Culture in a Media Age* (London: Routledge, 2004), 278.

the here and now and to make oneself "at home" in places where bourgeois spatial ideologies dictate one should not.[34]

Recent popular representations of mobile television viewing rehearse many of these same concerns about social withdrawal, distraction, and public inconsiderateness. For instance, one print advertisement from 2007 for a Nokia portable Internet tablet shows a couple enjoying an intimate dinner above the slogan "A connection can happen anywhere." The woman in the ad reaches across the table to hold hands, but her companion's attention is elsewhere, focused on the ballgame playing on a small screen he cradles just beneath the table's surface. In this instance, tuning in to television at the dinner table isn't just bad manners; it likewise entails tuning out human contact – and in this case, romantic involvement – for the pleasures of the small screen.[35] A television commercial for Slingbox depicts an almost identical scenario: in this advertisement, a man stages an important work phone call so that he can watch the final inning of a baseball game on his cell phone while on a dinner date.

---

[34] Over time, some forms of public media use have become more acceptable than others. Hence, whereas social critics in the nineteenth century lamented reading by train passengers, today this practice is widely accepted as one of the "portable involvement shields" individuals take up in public settings to ward off unwanted social contact. (This term is taken from Erving Goffman, *Behavior in Public Places: Notes on the Social Organization of Gatherings* [New York: The Free Press, 1963]). The social codes governing public media use are locally defined, and thus vary greatly from nation to nation. In Japan, for instance, much stronger taboos exist around public cell phone use than in the United States. For more detailed account of these local variations, see Ito, Okabe and Matsuda (eds.) *Personal, Portable, Pedestrian* and Katz and Aahkus (eds.), *Perpetual Contact*.

[35] Similar scenarios appeared in advertisements for domestic receivers as early as the 1940s. See Spigel, *Make Room for TV*.

Though handled with humor, both advertisements position the mobile television screen as an impediment to human contact; the mobile viewer is capable of monitoring distant unfolding events in real time, yet is far less competent at maintaining connections with those who are closest to him.

In these advertisements, the viewer's choice to watch televised sports rather than fully invest himself in his performance of the rituals of heterosexual coupling strongly implies that mobile television is a "guy thing," and associated with an appropriately masculine interest in athletics. The ideological alignment of mobile television and masculinity is reproduced at many levels: a considerable amount of the advertising for mobile technologies and services features male protagonists, and widely-publicized demographic studies indicate that, as of 2007, men comprise up to seventy per cent of the audience for cell phone TV.[36] Still, in advertisements such as these, the gendering of mobile television viewing becomes a cause for question or concern. In both advertisements, the viewer is made the butt of essentially the same joke, a joke that pivots on his inability to maintain critical boundaries between private pleasures and public comportment. Much as was the case in the film *Rain Man*, there remains in these advertisements the sense that he who watches television in public has not been properly socialized into the spatial order of middle-class, adult heterosexuality. While higher functioning than Raymond, the behavior of these viewers suggests they remain frozen in a state of arrested development at which point they lack the

---

[36] Daisy Whitney, "New Moves Take Shackles Off of Mobile" *TelevisionWeek* vol. 26, no. 45 (December 10, 2007): 13.

maturity to keep their private pleasures private (and baseball is still more interesting than the opposite sex).

Anxieties about social performance and the merging of public and private space linger at the margins of many popular representations of mobile television technologies. For the most part, however, these misgivings are overshadowed by images of people using their mobile devices to escape the confines of home for a life of unencumbered mobility and consumption, and mobility remains emblematic of the television viewer's spatial and personal liberation. In one web advertisement for MobiTV, a self-professed "TV-holic" lugs a giant television set with him as he attempts to board a bus, get a haircut, and walk down city streets. In each scenario, his movements are encumbered by the giant set and the extension cord that tethers him to indoor power points. It is only after encountering a young woman watching television on her cell phone, and trading his old-fashioned set for a MobiTV subscription, that he is finally able to move – and consume – freely. To watch mobile television is, in the context of this advertisement, to cut the cord that ties the viewer to the domestic sphere. This does not mean that the mobile viewer lacks roots or connections; rather, this newfound mobility enables him to re-establish connections with a world previously encountered only via the mediation of the screen. The cell phone represents an improvement on television in more ways than one: not only is it more portable than the domestic screen, but it is also more sociable and "interactive."

Many advertisements for mobile television devices and services are structured, like MobiTV's commercial, as before-and-after narratives, or else pair two viewers – one mobile, the other homebound – as a way of contrasting mobile and domestic spectatorship. For instance, one Nokia advertisement establishes, via cross cutting, parallels between two soccer fans, one who watches a critical match at home, and the other who uses his cell phone to take in the game as he wanders around the city. The home viewer watches the game alone, on the living room couch, in front of a large television set. By contrast, the mobile viewer is every bit as active as the athletes who race back and forth across his cell phone's screen. Though he spends most of his travels lost in the game, in the long run he finds companionship, and even intimacy via the mobile screen. The differences between the two viewers' experiences of the same televised event is cemented by the juxtaposition of images of their respective reactions to the match's deciding goal: the home viewer performs a solitary victory dance, while the mobile viewer engages in an ecstatic celebration with an attractive young woman he has met in a café. As opposed to the other Nokia advertisement described above, in which the mobile screen puts up an immaterial impediment to romance, here mobile television becomes an instigator of social connections. On account of the small size of its screen, the Nokia cell phone featured in the advertisement actually warrants physical proximity between viewers, in this case resulting in an extremely intimate moment between strangers as they huddle around the cell phone.

Themes of interactivity are absolutely central to popular representations of mobile television, where they play out in a number of different ways. Within this context, interactivity does not simply refer to the ability to connect with others via mobile screens, but to mobile viewers' interactions with the built environments through which they travel.[37] Another Nokia commercial, for instance, employs *tromp l'œil* special effects to convey the manner in which the multimedia cell phone reduces the urban landscape to a much more intimate and manageable scale for its user. The ad begins with a quick montage of shots of the urban landscape at dusk, establishing its verticality and vastness, before transitioning to shots of a smartly-dressed man carrying a laptop bag traversing its streets. Walking through downtown, he spots a phone booth, which he promptly lifts off the ground and places in his bag. His motions are accompanied by a sudden shift in scale, so that the phone booth that only moments ago appeared normal sized shrinks to the size of a dollhouse miniature. He continues accumulating pieces of the built environment in this fashion, collecting items that represent the multiple functions of his phone, including a billboard (photography) and the neon sign of a jazz club (music). Finally, he comes across a giant screen television, not unlike the ones found in sports stadiums, which he promptly plucks from the top of the building on which it has been mounted. In the palm of his hand, the giant screen appears no larger than a cell phone. As the scaffolding that formerly

---

[37] For a thorough analysis of multiple definitions of "interactive television," see James Bennett, *Your Window-on-the-World: Interactive Television, The BBC and The Second Shift Aesthetics of Public Service Broadcasting* (PhD. Thesis, University of Warwick, 2007).

had held the screen in place buckles and sparks, the camera swivels around the viewer. Once it stops, we see that the screen has morphed into a Nokia cell phone.

In this ad, the mobile viewer's interactions with urban space are reminiscent of the urban rampages of King Kong or Godzilla. As in the films to which these iconic monsters lend their names, here the city appears to exist only to be plundered, in this case by over-caffeinated digerati with expensive eyeglass frames and even more expensive cell phones. Nokia's advertisement is as much concerned with narrativizing a particular fantasy about urban space as it is with ubiquitous tropes of technological mastery. Beginning with the transition from the opening montage of skyscrapers and broad boulevards to the street level and point-of-view shots that place us in the position of this urban wanderer, and continuing throughout each of the *tromp l'œil* sequences that follow, the ad repeatedly restages the city's transformation from an intimidating and unwelcoming environment to an inhabitable and even intimate place. These transformations occur via processes of contraction, or *miniaturization*. Miniaturization is, according to Margaret Morse, following Susan Stewart, "a process of interiorization, enclosure, and perfection" that reduces the incomprehensibly vast to a more intimate and manageable scale. Morse identifies these processes of diminution at play in television, automobile culture, shopping malls, and consumer capitalism itself, each of which "expands the personal … [transforming] action into exchange, nature into marketplace, history

into collection and property."[38] Miniaturization is thus a form of *privatization*, not unlike that carried out by the viewer who watches television in public places. Nokia's cell phone performs a similar operation on the city itself, reducing it to a scale at which the viewer can feel as comfortable in its streets as he does in his home. It does so by giving him access to all of the same media devices that are found in his living room in the form of the miniaturized cell phone. Through this transaction, all risk or threat is evacuated from the city; it becomes, like the home, the car, and the shopping mall, a space of privatized consumption and entertainment.

In advertisements such as this one, mobile television's miniaturization and privatization of the city recasts the social interactions that take place within it along the lines of consumption. The city street, the site of the chance encounters that Cass Sunstein argues are crucial to the functioning of deliberative democracies, becomes a place where mobile viewers "consume" not only the built environment, but also its inhabitants.[39] For instance, in a series of advertisements for Verizon's Real TV, another hip young male viewer is shown "interacting" with the people he meets on the streets via his cell phone. One installment has the mobile viewer amazed to learn that a blonde bimbo can intelligently discuss his phone's "seamless broadcast quality TV with no buffering or downloading." In another, he finds common ground with a coarse and

---

[38] Margaret Morse, "An Ontology of Everyday Distraction" in Patricia Mellencamp (ed.) *Logics of Television* (Bloomington, IN: Indiana University Press, 1990), 211.
[39] Cass Sunstein, *Republic.com* (Princeton, NJ: Princeton University Press, 2001).

garrulous hot dog vendor over their shared appreciation of the ability to channel surf on a cell phone. Here the cell phone's status as an eminently sociable technology used for building and maintaining interpersonal networks takes on new meanings, with the mobile screen providing an actual physical location around which individuals may congregate. In addition to privatizing public space, then, the mobile screen is depicted as *publicizing* it, making it possible for strangers to safely engage one another on the streets. But despite the face-to-face nature of these interactions, they are by no means reciprocal. Rather, they take place for the mobile viewer's entertainment or edification, and at his behest. The people he engages with are reduced to amusing "types," and their difference becomes a source of curiosity that is never threatening, and always entertaining. Like voice calls and text messages, these interactions occur through the mobile device's interface, where they can be conducted in a frictionless environment, without any of the tensions, conflicts, or compromises that characterize interactions in the referential spaces of the city.

The social dynamic at work in these fantasies of urban interactivity is further revealed by an advertisement for the Amp'd Mobile wireless network. Onboard a city bus, yet another young white male springs from his seat and begins issuing orders to his fellow passengers in a flat, affectless tone. First, he commands an elderly man and an African-American man to fight, and they immediately spring out of their seats and begin pummeling each other. Then, he instructs a man in mechanic's coveralls to turn up his radio, and an African-

American woman to “shake your junk,” at which point she performs a rather perfunctory pole-dance on one of the bus’s hand rails. Finally, the man tells the bus driver to hit the brakes. As the passengers go flying, the slogan “Have the Power to Entertain Yourself” appears on screen, followed by a rapid-fire montage of examples of the video games, sporting events, viral videos, and music clips available to Amp’d subscribers.[40]

If in Verizon’s advertisements the mobile handset provides an interface through which the mobile viewer can decode (and accommodate) sex or class difference, in Amp’d’s campaign it becomes a remote control device that enables the mobile viewer to collect, sequence, and consume the people he encounters in his travels, just like any other form of digital content. Amp’d Mobile’s advertisement immediately calls to mind the fantasies of universal remote control that drive the narrative of the film *Click*, described in chapter 1. Somewhat disturbingly, it also evokes *Bumfights*, the notorious series of exploitation videos in which homeless people fight or perform dangerous stunts on tape. Like *Bumfights*, this ad equates the “power to entertain yourself” with the power to use digital video technology to endanger and humiliate anonymous urban subalterns. Only whereas *Bumfights*’ producers had to ply their victims with cash, alcohol, or even crack to get them to appear on camera, in Amp’d Mobile’s advertisement the city’s inhabitants are imagined to be fully obedient and acquiescent to the

[40] Alternate versions of this ad include one in which the mobile viewer commands a passenger to chew a wad of gum stuck to a seat, and another in which he instructs two women to lick each other’s faces.

mobile viewer's will. The scenario depicted in this advertisement gives the concept of "privatizing technologies" an altogether different spin. The mobile viewer does not simply use technology to withdraw from his surroundings, or to impose his own private media pleasures on those around him. Rather, via the act of watching mobile television, he reimagines public spaces as fully privatized and existing primarily for his own entertainment. Amp'd Mobile's vision of mobile television reminds us that the privatization of urban public spaces encompasses, in addition to redevelopment projects that turn over large swathes of downtown real estate to private developers, everyday experiences of consumption. In this respect, mobile television's remedial discourses dovetail with an ideology of "urban renewal" geared towards reconfiguring the city as a space of consumption, a safe and sanitized mall in which funky urban spaces and interesting, non-threatening urban "types" are the primary "goods" on offer.[41]

However, these experiences of safety, mobility, and control are not available to all who pass through these spaces. In Amp'd Mobile's advertisement, the sexual and violent spectacles that take place aboard the city bus are performed entirely for the amusement of the mobile viewer. In fact, his fellow passengers remain oblivious to the events going on around them, until they find themselves thrown by the bus's sudden stop. Microsoft chairman Steve Ballmer

---

[41] Sarah Chaplin and Eric Holding, "Addressing the Post-Urban: Los Angeles, Las Vegas, New York" in Neil Leach (ed.) *The Hieroglyphics of Space: Reading and Experiencing the Modern Metropolis* (London: Routledge, 2002), 187.

has described the cell phone as a "remote control for life."[42] In advertisements such as this one, the power dynamic implicit in this metaphor becomes abundantly clear. As I have previously demonstrated, the disembodied interactivity promised by technologies of remote control is premised on embodied forms of difference. Television remote control instantiates and renders banal forms of militaristic, economic, and/or sexual dominance that supply the material and ideological bases of the ability to control people and machinery from a distance. Advertisements for mobile television technologies transport these banal power dynamics out of the domestic sphere and into the street, defining TV repair not simply as "the power to entertain yourself," but also as the power to extrapolate the sense of control and mastery enjoyed by the home viewer to the world at large. In Amp'd Mobile's advertisement, as is the case in the vast majority of popular representations of mobile television, this power is monopolized by a technologically adroit, young white male.[43]

Certainly, the marginalization of diversity within advertisements like this one has less to say about mobile technologies than it does about the limited and limiting conventions for representing sexual, ethnic, and class difference in

---

[42] Ina Fried, "Ballmer: Phones are like remote control for life" URL (Accessed Mary 12, 2008): http://www.news.com/8301-13860_3-9802647-56.html?part=rss&subj=news&tag =2547-1_3-0-20/.

[43] By contrast, a companion advertisement from the same campaign features a woman in a similar position of control. Only, in this version, the action takes place in a domestic interior during a family reunion, with the woman commanding her family members to engage in similarly demeaning or dangerous stunts. Here, the viewer's control is divorced from geographic mobility, and is confined to the domestic sphere and the immediate family circle.

marketing discourse. However, in light of the preponderance of this trope, it is worth reiterating that television's presence in non-domestic environments means different things for different people. For those who are at liberty to indulge their wanderlust, and who can afford the technologies and services required to pull off these feats of mobile viewing, mobile television promises a means of colonizing space, reproducing social privilege, and managing or, at the very least, mediating various forms of difference. By contrast, for those who lack access to these resources, exposure to television in public places is often involuntary and can be deeply unpleasant. As Anna McCarthy has demonstrated in her work on non-domestic installations of television, on a daily basis public transportation passengers, the retail workforce, visitors to hospitals and clinics, and recipients of social services are subjected to various forms of "ambient television" that address them not as supremely mobile and autonomous consumers, but instead as captive audiences. Outside of the home, television frequently addresses its audiences explicitly as populations to be educated, distracted, pacified, or at the very least inured to boredom and long waiting times. McCarthy describes these public screens as sites of "institutional interdictions" where "the objectives of capital, of governmental and other authorities" are materialized in physical space by the arrangement of furniture, screens, and other items of décor. In these environments, television endeavors to transform empty, "useless" time spent

waiting into "productive" time spent improving one's self or, at the very least, performing the labors of media audiences.[44]

Of course, by no means do audiences sit idly by or acquiesce to these interdictions; on the contrary, in the waiting room, as is the case in the living room, television's disciplinary applications are always contested and incomplete. In her fieldwork, McCarthy discovered various tactics people use to ignore, avoid, or simply cope with their involuntary exposure to these forms of "out-of-home" television.[45] Still, for those who encounter television on the job, in waiting areas, or while in transit – in other words, people for whom mobility is not necessarily a discretionary declaration of consumer sovereignty, but rather is linked to different forms of economic necessity – these encounters are far from the liberating experiences depicted by advertisements for mobile television devices and services. For these *in*voluntary viewers, non-domestic installations of television are characterized by monotony instead of novelty, and feelings of powerlessness instead of omnipotent control. Programs, whether piped-in from remote sources or pulled off tapes or discs, repeat incessantly on monitors which cannot be turned off or turned down. Meanwhile, the audience is literally immobilized by social circumstances. Exposure to out-of-home television is a price they must pay for such "privileges" as medical care, public transportation, or even employment. Much in the same way as mobile television devices redundantly

---

[44] Anna McCarthy, "The Rhythms of the Reception Area" in Lynn Spigel and Jan Olsson (eds.) *Television after TV: Essays on a Medium in Transition* (Durham, NC: Duke University Press, 2004), 187, 189.
[45] McCarthy, *Ambient Television*, p. 195-223.

reflect their target market's social status back to them via these overcoded displays of masculine mastery and class privilege, non-domestic installations of television heighten their immobile audiences' awareness of their marginalization within or exclusion from mediated spaces of consumption. Here, it is not television that is being remediated, but rather the audience itself.

"Do More, Miss Nothing": Beyond the Media Fortress

As a flip side to these advertising images of libratory urban mobility, popular representations of mobile television commonly position the home and suburbia as sites of isolation and stasis. After all, it is the home that viewers must first leave behind before they may taste the freedoms available to them in these interactive urban environments. These departures are frequently the first steps in journeys of escape from domestic routine, particularly as it materializes in the contours of the television timetable and the conventions of domestic television reception. However, the fantasies of escape that inspire these journeys are often marked by hesitation, as mobile viewers weigh the freedoms of mobility against all that which they must forfeit by venturing outside their homes. If the mobile viewers depicted in the ads discussed above keep one eye on the tiny LCD screens of their iPods or cell phones at all times as they make their way through the city, they keep the other eye firmly planted on the homes they have left behind, seeking to recreate the feelings of security, connectivity, and control they enjoy in front of their home televisions.

The tensions between, on the one hand, the home's association with confining temporal, spatial, and moral regimes and, on the other hand, the sense of privilege and power these viewers experience when they are at home are indicative of what Meaghan Morris has described as a "masculinist tradition inscribing 'home' as the site of both frustrating containment (home as dull) and of truth to be rediscovered (home is real). The stifling home is the place from which the voyage begins and to which, in the end, it returns."[46] The circular trajectories of these journeys spatialize socially determined gender ideologies and roles, specifically as they are experienced in everyday life via the ideological division of the world into public/masculine/urban and private/feminine/suburban spheres. Both symbolically and in everyday practice, the private home and the suburbs have historically been identified with women and with femininity. For (white, heterosexual, middle-class) men, whose prerogative it is to come and go from their homes as they see fit, these feminized spaces may in fact be stifling and dull. Yet they are just as frequently sites of pleasure and relaxation, comfortably removed from the dangers and concerns of the workaday world. If, as Morris suggests, men may rediscover certain truths within their homes, it is at least partially on account of the fact that men are largely exempt from many of the forms of labor that take place within them. Unlike women, for whom the Victorian ideology of separate spheres designates the home to be a site of labor, for men

[46] Meaghan Morris, "At Henry Parkes Hotel" *Cultural Studies* vol. 2 no. 1 (1988): 12.

the home can be a place of contemplation and rest, where many of their needs are looked after by others.

As Janet Wolff suggests, experiences of *voluntary* mobility bear an intrinsic (though by no means essential) relationship to "*constructed* masculine identity."[47] It is not that women can not or do not travel the circular paths leading from and back to the home. Conversely, these trips become meaningful specifically in relation to men's ambivalence towards their homes.[48] As Doreen Massey puts it, "[home] is where the heart is (if you happen to have the spatial mobility to have left) and where the woman (mother, lover-to-whom-you-will-one-day-return) is also."[49] It is this ability to have it both ways, to experience the home both as a comforting source of constancy and a locus of social and spatial confinement that can and in fact must be left behind, even more so than mobility itself, that the promoters of mobile television devices and services promise consumers.

Along these lines, numerous advertisements for mobile television technologies imagine or address a viewer who desires mobility, yet is paralyzed by the fear that by leaving behind the domestic sphere he will forfeit the privileges he enjoys there. The persistent presence of these seemingly antithetical attitudes complicates mobile television's remedial discourses, as

---

[47] Janet Wolff, "On the Road Again: Metaphors of Travel in Cultural Criticism" *Cultural Studies* vol. 7 no. 2 (1993): 230. Italics in original.
[48] Morley, *Home Territories: Media, Mobility, and Identity* (New York: Routledge, 2000), 131.
[49] Doreen Massey, quoted in Morley, *Home Territories*, p. 64.

expressions of the desire to mobilize TV are accompanied by compulsive acknowledgements of the consequences that come from cutting television's (and viewers') connections to the domestic sphere. A 2007 press release promoting Verizon's V CAST mobile television service captured this ambivalence and the hesitation in which it can result via a series of pointed questions:

> Were you glued to your couch to watch a great play of the big game, catch updates on the 2006 midterm elections, or witness one of those spectacular music award-show eyebrow-raisers? Have you stood in the family room, late for an appointment, because your young children wouldn't hop in the car because they were watching their favorite cartoon? Or worse: how often have you missed those touchstone moments that affect a whole nation because you were on the move?[50]

With these questions, Verizon's release presents a rather perplexing dilemma: either stay at home, and remain connected to the world via television; or leave, and run the risk of missing out on a defining television event unfolding in the mediated public sphere. Viewed from this perspective, being "glued" to home isn't necessarily a bad thing: the same glue that keeps the viewer standing in the family room also is also the stuff that binds together television's "national family."

---

[50] "Verizon Wireless Lifts Curtain on V CAST Mobile TV; True Broadcast Quality, the Best of TV," URL (Accessed March 13, 2008): http://news.vzw.com/news/2007/01/ pr2007-01-07d.html

To a certain extent, these scenarios appear to invert the traditional meanings of the public and private spheres, so that participation in the world of affairs (encompassing both the civic rites of national elections and popular entertainment spectacles) takes place within the home, and via the television set, and leaving home constitutes the true act of withdrawal from civic life. But rather than simply swapping the meanings of publicity and privacy, Verizon's release collapses them onto one another, revealing the degree to which each is implicated in the construction of (and in our experiences of) the other.

Verizon's press release nostalgically recalls a pre-cable, pre-DVR, broadcast-era paradigm in which audiences across the nation watched media mega-events in sync with one another. Yet even as it invokes television history to establish precedence for its new personal mobile television service, the release suggests that what mobile television offers is truly without precedent: that being the privilege of not having to chose between the pleasures of mobility and the sense of omniscience television viewers experience within their homes. Not only does the public collapse into the private; so, too, do private pleasures and privileges seep into mobile viewers experiences of public life via the mobile devices they carry with them on their travels.

The intensified experiences of privatized mobility to which Verizon's press release alludes become particularly meaningful in relation to the equally intensified experiences of mobile privatization made possibly by contemporary television technologies. As was the case in the 1980s at the time of the

introduction of the Sony Watchman, the advent of cell phone TV coincided with the peaking popularity of a range of domestic media technologies that have been linked to a pronounced cocooning trend amongst members of the American middle class. In describing this new cocooning trend, Barbara Klinger has identified the contemporary home, equipped with a DVD player, cable or satellite service, high-speed Internet access, and big-screen TVs as a modern-day fortress.[51] Klinger's media fortresses do not represent a departure from or transformation of the media homes inhabited by earlier generations of television audiences so much as they speak to an historically specific inflection of the home-centered, yet thoroughly connected way of life Raymond Williams called mobile privatization. Indeed, the media fortress is but the most recent iteration of a succession of metaphors for describing the home's relationship to the world outside its walls (including "home theater" and "window on the world") that, as Spigel notes, stretches back to the nineteenth century.[52] As a metaphor for mobile privatization's core contradictions, the media fortress takes into account the ways in which the home is inhabited and experienced in light of millennial anxieties surrounding Y2K, the traumas of 9/11, and the War on Terror's injunctions to citizens to remain vigilant as they go about their day-to-day lives.[53]

---

[51] Barbara Klinger, *Beyond the Multiplex: Cinema, New Technologies, and the Home* (Berkeley: University of California Press, 2006), 9.
[52] Spigel surveys these metaphors in "Media Homes: Then and Now" *International Journal of Cultural Studies* vol. 4 no. 4 (2001): 385-411.
[53] Klinger, *Beyond the Multiplex*, pp. 24, 50; see also Lynn Spigel, "Designing the Smart House: Posthuman Domesticity and Conspicuous Production" *European Journal of Cultural Studies* vol. 8 no. 4 (2005): 403-5.

The promoters of home electronics devices have actively sought to capitalize on these anxieties, inviting consumers to experience their media-rich homes as bunkers from which they may survey a frightening world via television and the Internet, or alternatively as miniaturized (and thoroughly privatized) recreations of that world, in which they may shop, interact with others, and take in entertaining spectacles, all within the friction-free virtual public sphere rendered on the screens of networked communications devices.

Against the backdrop of the contemporary cocooning trend, the promoters of mobile technologies offer an alternative solution to mobile privatization's core contradiction. Rather than inviting them to retreat into their homes and the virtual experiences of mobility domestic media technologies make possible, the promoters of mobile technologies instead encourage consumers to imagine using mobile devices and services to transport the sense of security and mastery they experience within their media fortresses outside of their homes' four walls. However, these public uses of mobile devices are often premised on specific configurations of *domestic* technologies and spaces. That is, within the context of mobile television's remedial discourses, it is only once the home has been fortified, and connected to the outside world via two-way networked technologies, that it can comfortably be left behind. Amongst their many functions, the technological arrays assembled within the media fortresses Klinger describes provide their owners with assurances that no matter how far they roam, they need never lose their connection to the mediated public sphere. To this end, the

DVR manufacturer TiVo has promoted its digital recorders as a source of the peace of mind their owners require before they can un-glue themselves from their televisions, to appropriate a term from the Verizon release discussed above. Advertisements for TiVo depict viewers poised to depart their homes, confident in the knowledge that in their absence their DVRs will continue to monitor and archive television broadcasts in anticipation of their return. In one ad, a travel buff explains that her TiVo will automatically record her favorite programs for her as she embarks on a world tour. Another ad in the same series depicts a bachelor in smart evening wear clutching a martini and poised to step out for a night on the town. Fittingly, on the screen of his television is an image of an airplane banking over a mountain range. TiVo's assurances to these mobile viewers are summed up by the various slogans employed by the company in this and other advertising campaigns: "Get out and do, come in and watch." "Do more. Miss nothing." "Never miss a thing while you're out not missing a thing." "You've got a life. TiVo gets it."

The technological arrays located within these media fortresses offer their owners more than just the peace of mind that comes with the knowledge that they continue to work in their owners' absences. On account of their networked connections, these technologies also provide their owners with means of checking up on, and even controlling their homes while they are away. David Morley has observed that speculative descriptions of the house of the future frequently contain predictions that we will one day enjoy the ability "to control our

homes by mobile phone when we are absent – letting the on-line supermarket delivery man into the house, adjusting the heating, or running the bath for when we get home, before we leave the office, or keeping a surveillant eye on the nanny's behavior with our children, while we are out socialising."[54] A number of the operations Morley describes are already a reality: some of the same devices used to watch television on the go allow users to remotely access their home computer desktops, turn their home television sets on and off, program their DVRs, or even peek in on what their children are watching on television. Rather than providing a window through which the audience may safely explore faraway places, and apart from granting viewers the means of transporting television's intimate pleasures into public environments, here mobile viewers remotely monitor and manage their homes *via their home's media technologies*. By using their mobile devices to peek in on their domestic screens, mobile viewers may confirm the integrity of the media fortresses they have vacated, and even remotely exercise their jurisdiction over the technologies and the people they have left behind.

These applications of mobile technologies take advantage of the two-way architecture of wired and wireless networks to transform the home from a place where one watches television to a place one watches *on* television. Yet the

---

[54] David Morley, *Media, Modernity, and Technology: The Geography of the New* (London: Routledge, 2007). For historical accounts of conceptions of the home of the future, see Brian Horrigan, "The Home of Tomorrow, 1927-1945" in Joseph J. Corn, *Imagining Tomorrow: History Technology, and the American Future* (Cambridge, MA: MIT Press, 1986), 137-63 and Lynn Spigel, "Yesterday's Future, Tomorrow's Home" in *Welcome to the Dreamhouse*, pp. 381-408.

technological implementation of these forms of remote monitoring and control is likewise reliant upon another type of infrastructure: the infrastructure of power and authority that gives shape to the relationships that occur within the middle class home. Mobile technologies relocate the terms of these relationships into the hybridized public/private/virtual spaces of mobile television, where they may overlap with the power dynamics already at play in these environments. When considering the mobilities afforded to viewers by these mobile and domestic television technologies, it is crucial that we take into consideration the intersections of these wired, wireless, and interpersonal networks, as when we do, we discover just how much the portable powers of the mobile television viewer are predicated on the maintenance of the status quo at home.

Remote Control

As a placeshifting technology that acts as a bridge between domestic media technologies and mobile devices, Slingbox provides a rather detailed (and particularly relevant) diagram of these intersecting networks. Sling Media, Slingbox's manufacturer, has addressed much of its marketing to frequent travelers, promoting its placeshifting products as offering people who spend a great deal of their time away from home a means of recreating aspects of their home viewing experiences in airports, hotel rooms, and other transient spaces. With a Slingbox, viewers may access the various components of their home entertainment centers, including cable or satellite receivers, DVD players, and

DVRs, as well as their local programming lineups through graphical user interfaces that attempt to faithfully recreate the look and feel of their own remote controls. For instance, if a viewer operates his home entertainment center through a Sony universal remote control, while away from home he can operate it via a two-dimensional on screen rendering of the very same universal remote. Slingbox's extension of the home television audiences powers of remote control would appear to realize the fantasies of disembodied mastery explored in chapter 1. However, both in its marketing and its implementation, Slingbox resolutely privileges a sense of attachment to a specific conception of place. Advertising materials thus emphasize the comforts that one can only experience while at home or in one's local area, including being able to tune in familiar local channels, local television personalities, and programming of local interest. At a moment when television industry re-regulation has drastically relaxed the local service requirements Federal Communications Commission regulations formerly imposed on station owners, and when industry conglomeration has allowed the ownership of many local stations to accrue in the hands of corporations with headquarters located far away from the markets they serve, Slingbox foregrounds the continued importance of the locally originating broadcasts viewers receive at home to viewers' experiences of television. At the same time, however, it also underscores television's role in defining its audiences' conceptions of the local. Here, the local is delimited by the coverage areas of network affiliates' transmitter towers, professional sports leagues' contracts with

cable networks, and demographic research. Placeshifting technologies encourage attachments to (and reinforce) these constructions of the local, even as they make it possible for viewers to circumvent the traditional institutional geography of broadcasting and cable.[55]

Much in the same way as Slingboxes can be used to monitor local media from remote locations, they also may be used to remotely monitor viewers' homes, possessions, family members, and guests. This monitoring takes at least two forms. First, by connecting their Slingboxes to closed-circuit cameras, baby monitors, "nannycams," or other surveillance equipment, mobile viewers may access real-time video feeds emanating from their homes. As an example of one suggested use for these capabilities, an article on the website SlingCommunity.com encourages busy parents to take advantage of this feature to "use a Slingbox to peek in on the sitter when you and your spouse are out on the town… This way, you can be assured the sitter isn't asleep on the sofa, or entertaining a 'special friend,' while your kids run rampant around the house."[56] The second form of monitoring made possible by placeshifting technologies like Slingbox is geared towards protecting the home from a different type of uninvited

---

[55] URL (Accessed June 5, 2006): http://www.slingbox.com/. For a critical overview of the ways in which the ideology of the local has been articulated in FCC policy and network practice, see Victoria Johnson, *Heartland TV: Prime Time Television and the Struggle for U.S. Identity* (New York: NYU Press, 2007), 32-58.

[56] Matt Whitlock, "The Slingbox for Surveillance and Security" URL (Accessed March 20, 2008): http://www.slingcommunity.com/article/11377/The-Slingbox-for-Surveillance-and-Security/. Note that this website is not affiliated with Slingbox manufacturer Sling Media.

houseguest. By using their Slingboxes to tap into their home entertainment centers, mobile viewers can peek in on the viewing of those who remain at home. This form of monitoring extends upon the technologies of parental supervision discussed above in chapter 3, granting domestic managers a means of remotely administering their children's media intakes from the road. By using their mobile devices to commandeer home media equipment, mobile parents may immediately and decisively intervene in their children's viewing, changing the channel, deleting a recorded program, or turning off the set altogether.

As they redirect mobile viewers' attention back towards the homes they have departed and the screens (and family members) they have left behind, placeshifting technologies like Slingbox exaggerate the bifocal logic that characterizes the divided attention of mobile viewers. Here, it is not merely the case that mobile viewers orient their experiences of public media consumption against the comforts and conveniences of the home. Instead, the home itself becomes, like the non-domestic environments through which the mobile viewer travels, a site that is to be consumed on television. Placeshifting technologies afford viewers opportunities to experience their homes as voyeurs, or, to put things differently, as audiences do the houses where surveillance-themed reality TV programs, including *The Real World* and *Big Brother*, are shot.[57] In programs such as these, fully-wired media fortresses are re-imagined as broadcast studios

[57] Mark Andrejevic explores the ideological and technical interrelations between interactive digital technologies and the surveillance-themed reality TV trend in *Reality TV: The Work of Being Watched* (Lanham, MD: Rowman and Littlefield, 2004).

where “real” people expose themselves to around-the-clock surveillance as they participate in staged enactments of the most banal aspects of everyday home life. Along similar lines, placeshifting technologies like Slingbox render the private home transparent, and the domestic receiver a technology of both reception and transmission. Only, while popular reality programs play to audiences numbering in the millions, on the screens of mobile viewers’ cell phones or PDAs, daily domestic micro-dramas, starring naughty children and devious babysitters, are staged for an audience of one.

For at least one contributor to the SlingCommunity website, on a mobile screen, these domestic dramas blend in with the programming airing concurrently on the other channels on the dial. As this viewer put it, “I can turn to a channel that shows the front door, the driveway, or all the cameras. Or I can just watch the Scifi [sic] channel.”[58] Typically, however, the feed from the home surveillance camera is not a source of entertainment, but rather a means of quelling mobile viewers’ concerns about the sanctity (and productivity) of their households in their absences. In addition to providing mobile viewers with the peace of mind that comes from being able to check in on their property and their families, these technologies also provide them with a means of initiating punitive actions against those who violate the rules of their homes. With placeshifting technologies like Slingbox, the same mobile devices that viewers use to peek in

[58] Posted by SecurityGuy at URL (Accessed March 20, 2008): http://www.slingcommunity.com/ article/11377/The-Slingbox-for-Surveillance-and-Security/.

on homes can also be used to place phone calls to their children, to their babysitters, or to the authorities. Most reality TV programs contain a punitive dimension of one kind or another (in many instances that is linked to a weekly telephone vote-off, the result of which determines which participant will be removed from the program). Only here, the consequence for misbehaving on home surveillance cameras is not "eviction" from the media fortress, but rather more directly punitive measures, carried out by the hands of parents or police.

The disciplinary applications of mobile television surveillance remind us that the "domestic fortress" is more than just a metaphor, describing, in addition to the practice of cocooning within media-saturated home theaters, the wide range of security and surveillance measures to which many middle class homes are subjected. The late-1990s/early-2000s cocooning trend occurred in the midst of an extended period of domestic fortification during which it became increasingly common for private homes and even entire suburban communities to be barricaded behind extensive security installations.[59] As a counterpart (and sometimes compliment) to gated communities' sentry posts, private security militias, and walled perimeters, media fortresses may be secured via "firewalls" that monitor the traffic of digital data into and out of them and closed-circuit television (CCTV) surveillance systems that stream camera feeds to private security websites or, via devices like Slingboxes, cell phones. These media

---

[59] Edward J. Blakely and Mary Gail Snyder, "Divided We Fall: Gated and Walled Communities in the United States" in Nan Snyder (ed.) *Architecture of Fear* (Princeton, NJ: Princeton Architecture Press, 1997), 85.

fortresses' extensive technological resources and connections to two-way digital networks readily lend themselves to these forms of remote sensing and control. But the presence of these technologies within middle class homes can also make them attractive targets for burglars. In somewhat of an ironic commentary on the interdependent cocooning and home security trends, a 2008 print advertisement for the electronics retailer Radio Shack intimates that it is the presence of expensive media technologies within the home that warrants these extensive security measures in the first place. The ad tells the story of a man who wants to outfit his home with a security system that, in his words, will enable him to "monitor my stuff while I'm out doing stuff."[60] Technology appears in this advertisement simultaneously as that which is at risk, and that which alleviates risk. Underneath a photo layout featuring a cell phone displaying the feed from a security camera is a mathematical equation: cell phone plus laptop computer plus webcam plus memory card equals a miniature house wrapped up in chains and secured with an oversized padlock.[61]

Compared to SlingCommunity's guide to monitoring children and babysitters via CCTV, Radio Shack's ad suggests a different form of mobile

---

[60] *Wired* vol. 16 no. 4 (April 2008): 93.

[61] Advertisements such as this one are expressive of the advanced liberal ideologies discussed above in chapter 3. Within advanced liberal societies, citizens in effect become consumers of security, patronizing both private security firms and public law enforcement agencies, or else take on the task of securing their homes themselves, using technologies like those displayed in Radio Shack's advertisement to create their own digitally-enclosed home fortresses. For more on advanced liberalism's injunctions to take responsibility for one's own security, see Laurie Ouellette and James Hay, *Better Living Through Reality TV* (Malden, MA: Blackwell, 2008), 134-169.

surveillance in which it is private property itself, and not people, that warrants surveying. (Reading this ad, I am left with the image of mobile viewer admiring the real-time feed from a surveillance camera trained on his home media center.) Still, both of these conceptions of home monitoring equally hint at the same particular paradox, in which mobility is imagined as rendering the home highly vulnerable, particularly in contrast to the threat-free urban environments mobile viewers explore in a perpetual state of distraction. Mobile television's remedial discourses relocate threat from the *privatized* urban environments through which liberated mobile subjects travel to domestic environments that, though fortified against the outside world, nonetheless become vulnerable in the mobile viewer's absence. Viewed from this perspective, the purpose (or promise) of a place shifting device like Slingbox is to make the home as safe and secure as the street is imagined to be, in part by subjecting the home to forms of surveillance suggestive of those employed in spaces ranging from shops to airports to workplaces to city streets. In these, as well as countless other environments, extensive networks of CCTV cameras track individuals as they work, consume, travel, and communicate. The presence of surveillance cameras contributes to what Mike Davis has called a "fortress effect," in which the city is architecturally and technologically fortified against its poor inhabitants, so as to appear safe and inviting to capital investment, wealthy consumers, and "middle-class residential colonization."[62] The fortified city spatializes middle-class privilege much in the

[62] Mike Davis, "Fortress Los Angeles: The Militarization of Urban Space" in

same way as do that the media-rich home and the suburban gated community do. Via architecture, planning, surveillance, and demonstrations of punitive force, conditions are established that facilitate and streamline the circulation of middle-class consumers between their homes, their cars, their places of work, and urban sites of consumption. Meanwhile, the same measures channel the urban poor out of sight and into segregated areas cut off from shops, public transportation routes, and places of employment, where they no longer can be of nuisance to middle class consumers.

Implementations of these technologies of control and surveillance have been the subject of considerable critique, particularly over their marginalization of the urban poor, privatization of public lands and services, and overall decimation of any semblance of civic life.[63] But the same forms of surveillance and coercion that alarmed critics have accused of homogenizing, sanitizing, or even destroying urban spaces, popular representations of mobile television celebrate as securing the city for the mobile viewer's enjoyment. Urban surveillance constitutes an unacknowledged, though natural, counterpart to the fantasies of urban mobility portrayed in advertisements for mobile technologies. Both pivot on the premise of using digital technologies to privatize public environments, making them safe

---

Michael Sorkin (ed.) *Variations on a Theme Park: The New American City and the End of Public Space* (New York: Hill and Wang, 1992), 158.

[63] See, for instance, Blakely and Snyder, "Divided We Fall"; Mike Davis, *The City of Quartz: Excavating the Future in Los Angeles* (New York: Vintage, 1990); Hille Koselka, "'The Gaze without Eyes': Video Surveillance and the Changing Nature of Urban Space" *Progress in Human Geography* no. 24 (200): 243-265; M. Christine Boyer, *Cybercities* (New York: Princeton Architectural Press, 1996).

enough for middle class consumers to explore, but not so safe that they lose that sense of "riskless risk" that John Hannigan calls "controlled edge."[64] The mobile viewer still encounters sexual, ethnic, and class diversity in his travels through non-domestic environments, yet these mediated encounters have, in effect, been pre-screened via CCTV and the other forms of mediated surveillance that go on in the background of many urban environments. It is on account of this comprehensive surveillance that in popular representations of mobile television viewing individuals may wander the streets with hundreds or even thousands of dollars of expensive electronic equipment in plain sight without risk of reprisal. Of course, this is hardly the case in the majority of urban environments. In many world cities, criminals target iPod, cell phone, and PDA users, taking full advantage of their distraction to relieve them of their electronic gear.[65] But in popular representations of mobile viewing, these threats to private property are invisible. Rather, it is the home, and not the street, that is experienced as a site where private property becomes vulnerable and a source of risk.

In the media fortress, as in the fortified city, gaps in CCTV networks are filled in by technologies of *dataveillance*, which track individuals by following the trails of digital data their consumption activities leave behind – for example, credit

---

[64] John Hannigan, "A Neo-Bohemian Rhapsody: Cultural Vibrancy and Controlled Edge as Urban Development Tools in the 'New Creative Economy'" in Timothy A. Gibson and Mark Lowes (eds.) *Urban Communication: Production, Text, Context* (New York: Rowan and Littlefield, 2006).

[65] According to a report by the Urban Institute, the popularity of the iPod may in fact be linked to a rise in urban crime. See John Roman and Aaron Chalfin, "Is There an iCrime Wave?" (Washington, DC: Urban Institute, 2007).

card transactions, phone records, ATM transactions, web browser histories, video-on-demand requests, and so on. As Mark Andrejevic notes (and as is discussed above in chapter 3), the private home has become one of the primary locations where consumers produce these digital data trails as they go about consuming and interacting with digital technologies.[66] Placeshifting technologies like Slingbox enable mobile consumers to carry out what Andrejevic describes as "do-it-yourself" dataveillance, in which consumers, and not just corporations and the state, perform the work of monitoring one another.[67] Consistent with the growing prevalence of keystroke logging software, global positioning system cell phone tracking, on-line background check services, and other DIY surveillance technologies and techniques, Slingboxes enable their owners to remotely monitor what others are watching on television, without their knowledge, under the pretense of protecting vulnerable populations, and children in particular, from inappropriate or indecent media. Ensuring the sanctity of the home in this context means securing more than just the valuable technologies contained within it. It also means using remote sensing and remote control technologies to maintain the leisure productivity of all of its inhabitants. Placeshifting technologies expand the administrative jurisdiction of domestic managers, enabling them to oversee their children's developments without sacrificing their own professional or social mobility. Hence parents may be productive members of society, and at the same

---

[66] See Mark Andrejevic, *iSpy: Surveillance and Power in the Interactive Era* (Lawrence, KS: University of Kansas Press, 2007).
[67] Mark Andrejevic, "The Working of Watching One Another: Lateral Surveillance, Risk, and Governance" *Surveillance & Society* vol. 2 no. 4 (2005): 481.

time use these ensembles of mobile and domestic technologies to ensure that in their absence their children continue to observe their families' "corporate policies."

In explaining this application of placeshifting technologies, SlingCommunity.com suggests that via these forms of DIY dataveillance parents gain insights into their children's lives (and personalities) that are only legible at the level of data. The site asks parents:

> When your kids tell you that they're watching something "parent approved," how can you really be sure? Have you ever wondered if they raid your collection of R rated movies? Are they doing homework or playing games? Slingbox can give you all the answers. Connect your Slingbox to your TVs MONITOR OUT jack, and it'll Sling whatever is on the TV screen to your remote computer. This way, you'll know if they're watching something they shouldn't be.[68]

As is the case with CCTV home surveillance, with this form of dataveillance, the house becomes a broadcast studio. Only now, the feed emanating from the home is not of the home's inhabitants as they go about their everyday business, but rather of what they are watching on television. Here, mobile dataveillance is reminiscent of artist and theorist Dan Graham's 1978 *Video Projection Outside*

---

[68] Whitlock, "The Slingbox for Surveillance and Security."

Home, which featured a large monitor, positioned on the front lawn of a suburban home, displaying a direct feed from the living room television receiver. As Beatriz Colomina acknowledges in her discussion of Graham's piece, as both a mirror of the living room set and a window into the private affairs of the family, the monitor broadcasts a strikingly intimate revelation to outsiders.[69] By publicizing domestic viewing, *Video Projection Outside Home* endeavors to expose truths about the family and its inhabitants that are otherwise hidden from all but the Nielsen company. In this respect, Graham's piece – like SlingCommunity.com's loaded questions – hints at one of the foundational precepts of dataveillance: that individuals disclose their "true" identities (and motives and flaws) through the data trails they leave behind as they consume commodities and services, engage in voluntary forms of movement and travel, and carry out mediated communications. Applied to the parent-child relationship, this precept suggests that to truly know your children, you must first know what they are watching on television, what video games they are playing, what websites they are visiting, and who they are chatting with on line and on their cell phones. Within the scenario imagined by the SlingCommunity website, the mobile television device becomes a means of parenting – and disciplining – that is even more effective than involved, face-to-face parenting. In other words, while children lie (and CCTV systems have blind spots), media technologies expose incontestable truths about their operators. The suggestion is that by electronically monitoring

---

[69] Beatriz Colomina, *Domesticity at War* (Cambridge, MA: MIT University Press, 2007), 178.

their children's access to television, video games, and other media, parents stand to gain an even more intimate, even *immediate* knowledge of their children's true identities. Or, at the very least, they can know them as well as the corporations who monitor their data trails on a daily basis.[70]

Certainly, it is not difficult to imagine that such a sentiment would go over well with Sling Media's target market of ultra-mobile global business travelers! As a technology of remote control parenting, Slingbox is highly suggestive of the ways in which, as Morley notes, "new modes of electronic communication have themselves become the very infrastructure of family life." This technological infrastructure does not replace the traditional moral infrastructure of the household, but instead reinforces it, providing family members with new means of monitoring and disciplining one another's behavior in real or virtual spaces.[71] But if DIY dataveillance has become a part of the infrastructure of the middle class family, and plays a crucial role in maintaining traditional family ties and hierarchies of authority, it does so at a cost of replicating within interpersonal relations the asymmetries of power and access that increasingly characterize our interactions with corporations and government agencies. The increasingly common practices of do-it-yourself surveillance and dataveillance, carried out

---

[70] This increasingly commonsense notion is by no means limited to parents' relationships to their children. As Andrejevic suggests, in many instances in which intimate relations are conducted at least partially via digital mediation, there arises the perception of an increased need for new technologies of verification capable of corroborating the identities and statuses of communicants. Andrejevic, *iSpy*, p. 213.

[71] Morley, *Media, Modernity, and Technology*, p. 205-7.

amongst and between parents and children, spouses, and potential romantic partners, reconfigure the terms of relationships between intimates. As Andrejevic contends, grass roots monitoring "mimics and amplifies top-down forms of commercial and political surveillance" that are characterized by and productive of widespread skepticism and mistrust.[72] In the case of mobile television surveillance via Slingboxes or other place-shifting technologies, these asymmetries overlap with the inequitable distribution of access to technology and mobility amongst members of the middle-class household. That is, those who leave the home are duly empowered: first, to enjoy the privilege of geographic mobility, and second, to indulge in voyeuristic fantasies of monitoring and intervening in the domestic spaces they have left behind from a remote. The mobile viewer crosses over to the other side of the partition separating the surveyor from the surveyed, positioning himself alongside and identifying himself with the corporations seeking to exploit the media-rich home fortress's transparency for profit. In doing so, the mobile viewer does not exempt himself from these networks of surveillance; rather, his empowerment coincides with his willingness to carry out surveillance on his family himself, and, beyond that, with his acceptance of the responsibility for maintaining the security of his own private property. On the other hand, those who are left behind – be they children, stay-at-home moms, grandparents, domestic workers, the ill, or those looking for a quiet night in – are at once seen to be vulnerable *and* suspect. Geographic

[72] Andrejevic, *iSpy*, p. 213.

immobility becomes probable cause, warranting and justifying surveillance. For these less mobile viewers, the media-rich domestic fortress doubles as a panoptic prison, where their every activity and channel change can potentially be monitored by absent family members or corporate dataveillance.

The Value of Mobile Television

For all the resources that have been dedicated to promoting it as a technology of TV repair, mobile television has struggled to find an audience in the United States. Though American retailers reported selling over fifty-one million video-ready cell phones in 2007, industry estimates put the number of subscribers to mobile television services that year at fewer than five million.[73] Already Amp'd Mobile and Mobile ESPN, two of the first mobile networks to offer extensive television and video packages, have shut down after failing to attract adequate numbers of subscribers. Undeterred by these and other stumbles, consumer electronics manufacturers and mobile network operators continue to invest heavily in mobile television in anticipation of revenues that, according to some projections, could top $18 billion by 2015.[74] This resilience is underwritten by the mobile communications industry's notion that the appeal of watching television

---

[73] David Goetzl, "A Lot of Little Videos" *Broadcasting & Cable* vol. 137 no. 45 (November 12, 2007): 16; Daisy Whitney, "New Moves Take Shackles Off of Mobile" *TelevisionWeek* vol. 26, no. 45 (December 10, 2007); http://www.cellular-news.com/story/19608.php/.

[74] This figure includes $12 billion in subscription fees and an additional $6 billion in advertising revenues. John M. Higgins, "TV To Go" *Broadcasting & Cable* vol. 135 no. 39 (September 26, 2005):12.

on the go is self-evident, making its acceptance and uptake by consumers all but inevitable. As one industry executive confidently explained, "America is a nation of couch potatoes, and if anyone can intuitively grasp the intrinsic value of making television mobile, it's this country."[75] If not, another insider suggested, "they can be trained to want to if the marketing messages are right," as mobile television's future prospects aren't "a question of demand, but one of marketing savvy."[76]

But as the preceding analysis of the design, implementation, and marketing of mobile television has indicated, the "value" of mobile television is anything but "intuitive." Mobile television's meanings and uses are every bit as plural and proprietary as the technologies used to distribute and watch video away from the home. It is this interpretive and material flexibility that enables mobile television to simultaneously (and paradoxically) serve as a symbol of television's liberated, placeless future and a memento of its reassuringly emplaced past. Consider, for instance, the cell phone TV handset discussed at the beginning of this chapter. Promoted by LG as "the future of TV," the cell phone TV stands at the endpoint of LG's living timeline of television history as the culmination of more than sixty years worth of technological advances. Yet in spite of LG's bold pronouncements about its product, this device depends on the decidedly un-futuristic FLO TV system, a streamcasting method developed by

---

[75] Jason Ankeny, "A Big Opportunity for the Smallest Screen" *Wireless Review* (January 2005): 36.
[76] Daisy Whitney, "Mobile TV Makes Mark" *TelevisionWeek* vol. 25 no. 38 (October 9, 2006): 25.

Qualcomm to transmit programming over the UHF broadcast spectrum to handsets equipped with retractable whip antennas. With the FLO TV system, all programming is broadcast on standardized schedules, as opposed to on demand. Viewers are thus denied the ability to time shift, fast forward, or rewind enjoyed by anyone with a VCR and a blank tape. As one press review observed, far from being the futuristic experience promised by handset manufacturers, watching mobile television on the FLO TV system can be "a bit like TV in the '70s: no VCR-style recording, only eight channels, and in some areas you'll have to raise the phone's antenna to improve reception."[77] In this respect, it was only fitting that LG should have introduced its cell phone TV with a PR event featuring the stars of *Happy Days*, *The Brady Bunch*, and *Star Trek*. Channel surfing on the FLO TV airwaves, one could almost expect to come across or these or other kitsch TV "classic" from the high network era.

Contrary to Lotz, who has called mobile television a "post-network technology," characterized by its "contrast with the unstoppable flow of linear programming, the domestic confinement, and the staid aesthetic quality of the network era," devices like the cell phone TV and systems like FLO TV appear as throwbacks to an earlier network-era paradigm characterized by the linearity of its schedules and audiences' experiences of pre-constituted sequences of programming.[78] (Indeed, the name "FLO TV" immediately calls to mind "flow,"

---

[77] Eric Gwinn, "V Cast Dials up TV on Your Cell Phone" *Chicago Tribune* (April 5, 2007).
[78] Lotz, *The Television Will Be Revolutionized*, p. 50.

Raymond Williams' term for television's characteristic mode of program presentation during the high network era.) Granted, mobile television providers adjust their schedules to take into consideration the different times at which viewers can be expected to be the most mobile, so that, for example, the early morning and evening rush hours and midday lunch hour supplant the three-hour window between 8 and 11 pm EST as mobile television's designated "prime time." Still, mobile television's schedules remain tailored to the same eight hour workday and Monday through Friday workweek that guided the arrangement of television's broadcast-era timetables, that, as suggested in chapter 3, are commonly the subject of pointed critiques within the context of television's remedial discourses. At least in some implementations of mobile television, television continues to be conceptualized much as it was throughout the network era. Only now, instead of addressing an audience imagined to be at home, television's flows are tailored to industrial suppositions about the movements of people as they circulate between their workplaces and their homes. Underlying this temporalized mode of address remain antiquated assumptions about who works and who doesn't, who travels and who doesn't, and when these various forms of activities take place. In this respect, despite its portability, mobile television remains every bit as out of touch with the flexible patterns of labor and leisure described in chapter 3 as the broadcast networks' daily and weekly timetables are.

The conservative orientation of this particular implementation of mobile television goes far deeper than its technical properties and resuscitated version of high network era programming practices, extending also to the industrial ambitions that of those companies that have begun to supply programming for mobile screens. As the press account of FLO TV's limitations cited above suggests, mobile television systems take away from viewers many of the concessions granted to them by DVRs and other digital television technologies. With this implementation of mobile television, the out-of-home audience is imagined to be captive (on account of its location on busses, in lines at the bank or supermarket, in waiting rooms, etc.) and docile (incapable of fast-forwarding past advertisements, disrupting network schedules, or making and distributing unauthorized digital copies of network broadcasts).[79] For television networks and studios (a number of which have signed on to program their own FLO TV channels) this conception of the audience holds considerable appeal: mobile television promises to restore to one small segment of television's audience marketplace a semblance of the stability disrupted by digital technologies. While the audience for mobile television may in fact be mobile and watching television on the go, from the perspective of television networks, studios, and sponsors, it is nonetheless much easier to locate than the increasingly evasive home audience.

---

[79] See, for instance, URL (Accessed June 19, 2008): http://www.3g.co.uk/PR/April2006/2861.htm/; "Stuck in Traffic? Watch Your Mobile Phone!" *NDS World Vision* no. 26 (February 2005):1. See also McCarthey, *Ambient Television*, for more on industrial conceptions of the audiences for out-of-home media.

So far, however, many of these commonsense assumptions about the mobile audience have broken down, revealing the magnitude of the breach between consumers' and producers' respective understandings of mobile television and its value. In contrast to the nomadic viewers depicted in advertisements for mobile devices and services, studies conducted by mobile technology manufacturers, network operators, and academics have suggested that anywhere between approximately one-quarter and two-thirds of all "mobile" viewing takes place at home, of all places.[80] For example, Sling Media has acknowledged that between thirty-five and forty-five per cent of Slingbox placeshifting occurs between rooms in the same house, as opposed to from remote outposts like the departure gates of international airports.[81] Statistics like these suggest far from using them to flee their homes, some viewers might actually use their cell phones, PDAs, and iPods to increase their sense of choice and privacy *within their own homes*. A 2006 Nokia survey of recent research into mobile television use reports that "[r]ecent pilot studies confirm participants used their mobile TV devices as a personal screen at home, either because they wanted to avoid other members of the household and have a private viewing

---

[80] See, for instance, Daisy Whitney, "Mobile TV Makes Mark"; Nokia (2006) "Initial Results from the Mobile TV Pilot Trial Conducted by CANAL+, Nokia, SFR and Tower-Cast Confirm Interest in Mobile TV," URL (Accessed May 10, 2006): http://www.mobiletv.nokia.com/ news/showPressReleases/?id=74/.
[81] Daisy Whitney, "Internet TV Pulls Focus" *TelevisionWeek* vol. 26 no. 17 (April 23, 2007): 12.

environment, or because the television set was busy and they wanted to watch something else."[82]

These findings should hardly surprise us: though mobile television devices may be cutting-edge, people have long used a variety of media to make public and private spaces their own. The "value" of mobile television for its audiences is perhaps not that far removed from that of the "immobile" medium it purportedly extends and improves: both provide viewers with pleasurable means of inhabiting and vacating their immediate surroundings, as well as a variety of mediated, imagined, or remembered elsewheres. In light of these continuities between the mobile and the domestic screen, we might perhaps think of mobile television technologies as technological interfaces between seemingly incommensurable spaces and times, through which it becomes possible to experience digitally-rendered versions of the home and the public sphere, or elements of network- and post-network eras simultaneously, and on the same tiny screen. Or, to put things slightly differently, in addition to placeshifting television, mobile technologies might also be regarded as *timeshifting* devices, as they introduce elements of television's past into its future as easily as they project television viewers' experiences of home into non-domestic environments.

---

[82] Shani Orgad, "This Box Was Made for Walking: How Will Mobile Television Change Viewers' Experience and Change Advertising?" (London: Nokia, 2006), 5.

Conclusion

Over the course of the preceding chapters, I have explored the processes by which television itself "becomes new" as it converges with new media technologies. At each of the moments of convergence examined above, the promoters and proponents of a new medium worked to puncture television's illusion of stability, exploiting the excitement and apprehension that convergence engenders in order to redefine what television is, does, and means. Convergence – or, more accurately, the speculation that the convergence of old and new media inspires – prompts us to ask fundamental questions about the properties and meanings of familiar media. As my case studies have demonstrated, the very act of asking these questions brings into sharp relief television's ontological slipperiness, and the extreme mutability of its artifacts. By way of a conclusion, I want to suggest that our ability to engage with television's problems – however we might chose to define them – rests on our capacity to preserve a sense of the plurality and possibility that television displays during these moments beyond those points at which the debates convergence incites are officially deemed closed. Much in the same way as the promoters and proponents of new media exploit this uncertainty to advance their own economic, cultural, moral, or social

agendas for television, so too, I suggest, might the users of old media take advantage of it to recognize and realize alternative visions of television's future.

My observations about television's ontological and technological instability raise the question of whether the same claims might be made for other media. To a limited extent, I believe the answer is yes. Television holds no special purchase on the propensity to oscillate between states of closure and indeterminacy. With the prompting of new media (or, their promoters and proponents), any medium may shed the appearance of stability that its familiarity can breed. It is thus conceivable that a history of cinema exhibition technologies, for instance, could reach comparable conclusions to those of *TV Repair*, recognizing the ways that cinema itself "became new" at the moment of the introduction of sound, color, new screen materials, various widescreen formats, 3-D, IMAX, digital projection, and any number of other advances that have been promoted as improvements upon their technological antecedents. The same could be said of telephony, computers, radio, print, or any other communications medium, for that matter. The history of media is the history of the recursive resolution (or suppression) and resurgence of the fundamental questions asked at the moment of their initial emergence. Bolter and Grusin suggest as much in outlining their theory of remediation. To appropriate their terminology, media are constantly in dialogue with each other, remediating the capacities of their antecedents, contemporaries, and successors. But they also are in dialogue with their own pasts, and remediate the artifacts they once were and the questions and controversies they

once provoked. “Becoming new” in this respect entails *remediating media history*; it is itself a form of revisionist historiography, an act of reconstructing past to debates to configure closure as openness and possibility.

If this is indeed the case, and all media in fact share this tendency to “become new,” what, if anything, distinguishes television’s history as a convergence medium from that of other media technologies? One possible answer to this question is that the consensus surrounding television’s technologies and cultural meanings unravels more frequently and more spectacularly than does that of other media. There is a simple economic explanation for why this has so long been the case. Television has long been understood to be – and marketed as – a disposable consumer good. Since the 1940s television technologies have been made to be replaced, and frequently at that: they are designed to break, to become obsolete, or, bar that, to go out of style. The notion that new media technologies will reinvent or rehabilitate television has proven an instrumental means of alerting viewers to the shortcomings of present devices, and therefore of stimulating the consumption of new technologies. It is for this reason that the unraveling of the consensus surrounding television’s technologies and cultural meanings so often coincides with the rhythms of the marketplace: for instance, with annual model upgrades, seasonal selling calendars, the establishment and saturation of markets, and so on. We have seen numerous examples of this in the preceding case studies. Thus, for instance, television receivers equipped with wireless remote control

devices appeared on the market (and were promoted as technological solutions to the problems of and caused by television) at a moment when set manufacturers anticipated the imminent saturation of the market for monochrome receivers, but remained convinced that color sets remained out of the price range of the majority of consumers. Along similar lines, a decade later RCA executives made plans to dedicate the company's considerable resources to the production and programming of home video systems following the saturation of the market for color sets. In both of these instances, and in too many others to count, television "became new" in response to the imperatives of the marketplace, as electronics manufacturers enlisted extant critiques of television to promote new media technologies as solutions an old medium's old problems. TV repair in this respect would appear to be most effective as a solution to the problems of the marketplace, mainly those related to maintaining a level of consumption commensurate with the massive economies of scale of the consumer electronics industries.

Still, I want to maintain that something else sets apart the forms of discursive and technological tinkering I term TV repair from both the logics of the mass market and the more general "rhetoric of remediation" that Bolter and Grusin describe. Countless media technologies have been the subjects of similarly aggressive strategies of managed obsolescence – and similarly vigorous bouts of tinkering – without inspiring debates anywhere near as contentious as those that arise at the many moments when television converges

with new media. A concrete example helps illustrate this point. For much of the last century, snapshot cameras and film, like television technologies, have been marketed as disposable consumer goods by camera and film stock manufacturers who have strategically coordinated innovation and marketing cycles to manage the lifecycles of their products. Via the periodic introduction of new photographic imaging technologies, ranging from automatic cameras to color film to instant processing to filmless digital cameras, these companies have repeatedly replenished an exhausted consumer market for photographic equipment. Much as the manufacturers of television technologies do, camera and film stock companies invoke the rhetoric of remediation when promoting their latest innovations. Their distinctive inflection of this rhetoric focuses on the immediacy of new photographic imaging technologies, heralding each new camera type or film stock as capable of producing a more transparent record of reality than those that came before it.

Yet despite the frequency with which new, more *im*mediate photographic imaging technologies appear and old ones are designated obsolete, the ongoing project of perfecting snapshot photography has never been accompanied by the sense of urgency that characterizes discussions of TV repair. This is not to suggest that the transitions between these technologies and the regimes of representation with which they are associated occur without friction. The unlikely survival of “obsolete” photographic imaging technologies like the Polaroid Land Camera and the new meanings these old technologies take on within subcultural

contexts, art worlds, and collectors' cultures attest to the technological controversies that can arise in response to attempts to repair or reinvent the technology of photography. Still, I want to suggest that far more is at stake in television's technological reinvention than is with that of photography, and of many other media, for that matter. Within the context of marketing materials, media reports, and other popular culture texts, TV repair is never simply about making a flawed technology better. TV repair has come to take a much greater significance, and much more complex meanings, functioning both as a metaphor for personal and social transformation and a venue within which these transformations may be carried out. Though many other media technologies have their own comparable traditions and their own distinctive ideologies of progress, television more than any other medium inspires us to conflate our constant tinkering on it with the tinkering we perform on ourselves and our societies.

For whatever reason, it appears that we experience TV repair more immediately, and on a much more intimate basis, than we do the periodic reinvention of other media technologies. If this is indeed the case, it would seem that the immediacy and intimacy of these experiences could very easily make us vulnerable to the utopian promises of the promoters and proponents of new media technologies. Yet as my studies indicate, rarely is this so. The processes by which new media technologies are adopted and incorporated into established practices are seldom the swift revolutions promised by their promoters and

proponents. Despite the concentrated hype that accompanied their introductions, each of the new media technologies discussed above was initially met with widespread viewer indifference, with the result being that many years elapsed between their introduction and their adoption by viewers. In the case of the remote control technologies discussed in chapter one, it would take more than thirty years from the introduction of Flash-Matic and Space Command for remote control devices to penetrate more than 50 per cent of American television households.[1] The diffusion of home video technologies was similarly protracted: though video cassette recorders spread rapidly in the late 1970s, for more than a decade prior to Sony's 1975 introduction of the Betamax electronics manufacturers and entertainment conglomerates struggled (and repeatedly failed) to inaugurate a market for home video. DVRs, too, have been slow to take off: confounding the expectations of television industry analysts who initially predicted that DVRs would approach universal penetration within a decade of their introduction, as of 2008 DVRs were found in fewer than 25 per cent of all television households.[2] Mobile television technologies and services have likewise struggled to find an audience. In each of these instances, the adoption of these innovations was slow and drawn out, especially in comparison to the speed with which their promoters and proponents were able to unravel the consensus

---

[1] Christopher H. Sterling and John M. Kittross, *Stay Tuned: A History of American Broadcasting* (Mahwah, NJ: Lawrence Ehrlbaum Associates, 2002), 864.

[2] Nielsen DVR Universe Estimates, URL (Accessed August 12, 2008): http://www.tvb.org/multiplatform/digital_tv/Nielsen_DVR_Measurement.asp/.

surrounding television's technologies and cultural meanings. This is an important insight, and one that bears reiterating: the most dramatic impact new media have on their predecessors often comes not as a result of their widespread diffusion, but rather as a result of the negotiations that unfold in the period between their introduction and their adoption by consumers.

It is possible to interpret the often considerable delay that falls between the emergence of new media technologies and their adoption by viewers as evidence that consumers remain skeptical towards the prospect of TV repair. I myself share this skepticism: as I signal with the scare quotes I have placed around the word "solutions" in this dissertation's title, I believe there are many reasons to be wary of claims that new media will reform television and heal the injuries it has been accused of inflicting on American culture and society. The least of these reasons for skepticism is the question of whether or not TV repair actually "works." While there are many reasons to question the efficacy and appropriateness of the new media solutions explored above, I want to suggest that much in the same way as television's so-called problems are socially constructed, so, too, are these problems' solutions. Consequentially, a new media solution that is from the perspective of its promoters and proponents successful at accomplishing its intended objectives may be from the perspective of television audiences entirely unsuitable and unsatisfactory. The same holds in reverse. In fact, as my case studies have demonstrated with regards to a number of new media technologies, one constituency's technological solution can be

another's technological nightmare; recall, for instance, the preceding discussion of those mobile television technologies that grant viewers the ability to access their domestic media equipment from outside their homes at the expense of the privacy and choice of those viewers who stay behind. Evaluating the efficacy of these solutions requires looking first and longest at the agendas of those constituencies who advocate and embrace them, for although their promoters and proponents might present these technologies as universal cure-alls for television's ills, in truth TV repair is a partisan affair.

Faced with this relativism, of far greater concern is the very real possibility that the allure of quick and painless technological solutions will move us to delegate television reform to new media technologies, excusing ourselves from participation in the debates which convergence reopens. The promoters and proponents of new media technologies hold out to us the promise that technological progress will automate television reform, sparing us from the letter and email writing, petitioning, picketing, organizing, and boycotting that have long been the primary means by which television viewers have sought to transform television programming, the television industry, and the rules according to which television is regulated. In lieu of these and other forms of individual and collective activity, we are instead encouraged to regard our role in television reform as being to consume in accordance with the cycles of innovation and obsolescence established by electronics manufacturers, as by doing so, we clear the way for technological progress to work its self-correcting magic. Mark Andrejevic has

suggested that the search for technological solutions to the problems of technology and society is "a form of *anti*-politics," offering us a means by which we "can avoid the messy work of collective deliberation and attendant struggles over power."[3] We avoid this work not only by delegating and automating reform, but also by abandoning that which is "broken" for that which is "new." That is, rather than working to fix that which we believe to be wrong with television, we instead turn our backs on television's problems, hopeful that they will no longer be an issue for whatever medium succeeds it.

The consequences of these technological anti-politics can be considerable. Faith in technology's ability to reinvent or rehabilitate television diverts our attention away from pressing issues that lack obvious technological solutions, including the complicity of the FCC and Congress in the vertical and horizontal integration of multimedia conglomerates like News Corporation, the exploitative labor arrangements employed by the producers of many hit reality TV shows, and the passage of suffocating copyright laws written by entertainment industry lobbyists. Alternatively, the danger is that this faith may sway us in the direction of thinking that even these problems can be solved through the consumption of new media technologies. In either case, the seemingly unlimited promise of the new would appear to breed passivity and complacency, bidding us to endure the problems of the present in anticipation of a more perfect future that, we are so often told, will inevitably be delivered to us, fully formed, in the guise of

---

[3] Mark Andrejevic, *iSpy: Surveillance and Power in the Interactive Era* (Lawrence, KS: University Press of Kansas, 2007): 17.

a more perfect medium. That said, unlike Andrejevic, I am reluctant to concede that this faith necessarily amounts to an anti-politics. Again and again, audiences have proven themselves to harbor a healthy skepticism toward the entreaties aimed in their direction by the promoters and proponents of new media technologies. This skepticism is not cynicism; it is not evidence of an aloof withdrawal from collective deliberation, but rather the guarded stance adopted by those whom have in the past been disappointed by the outcomes of similar negotiations. The central contention of this dissertation has been that the debates sparked by television's convergence with new media expose the ontological and technological instability that, as Uricchio reminds us, is endemic to all media forms.[4] That we typically fail to capitalize on this instability is not a consequence of our faith in technological progress, but rather of the limited roles afforded to viewers within the context of the debates that convergence incites. It thus falls to us to wait until after these debates have reached closure, as it is in these moments that we are able to apprehend television's instability on our own terms. This is why I earlier suggested that our ability to engage with television's problems in a meaningful fashion hinges on history and memory: what we require most of all is the ability to recollect the instability that television has in the past displayed during those moments when its consensus seems most secure. It is my hope that this history has been a prompt of such recollections.

---

[4] William Uricchio, "Old Media as New Media: Television" in Dan Harries (ed.) *The New Media Book* (London: BFI, 2004), 221.