MIND & MATTER:

THE DISCURSIVE CONSTRUCTION OF THE IPHONE IN APPLE'S ADVERTISING

by

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A Thesis Submitted in

Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

in Media Studies

at

The University of Wisconsin-Milwaukee

December 2014

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ABSTRACT
MIND & MATTER: THE DISCURSIVE CONSTRUCTION OF THE IPHONE IN APPLE'S ADVERTISING

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The University of Wisconsin-Milwaukee, 2014
Under the Supervision of Professor David S. Allen

The widespread adoption of smartphone technology in the contemporary United States requires critical reflection on its role within society. This thesis compares the way Apple's television advertising discourse, from 2007 to 2011, frames the iPhone to consumers with the way Apple's iAd promotional material frames the iPhone to advertisers, and considers what the disparity between these two frameworks says about the still-evolving role of smartphone technology in society. It argues that the disparity between these two frameworks is indicative of a fundamental tension within smartphone technology. This tension is reflected in Apple's ability to discursively construct the iPhone as a tool of user empowerment, while at the same time discursively constructing the iPhone as a sophisticated market research and advertising platform. This study shows that user agency is complicated by the iPhone's technical design which produces information about the user in an effort to modify their behavior for commercial purposes.

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ACKNOWLEDGEMENTS

Authorship is never a solitary act. This thesis has its roots in the minds and words of many people. It was built on the scholarship that fills the footnotes and bibliography, and it was shaped by the criticism and advice of colleagues and mentors. Although this goes without saying, there are a few individuals who deserve specific recognition.

My thesis advisor, Associate Professor David S. Allen, provided an intellectual space that allowed the seeds of this project to take hold and grow. His patience and insights helped give me the confidence I needed to pursue my research questions. His editorial work and creative suggestions gave this thesis its formal and intellectual strengths. I could not have done this without him.

It was in Associate Professor Richard Popp's class, Media and Consumer Culture that I first became interested in the market research surveillance that happens on the iPhone. He has since been an essential resource for the development of my critical thinking and my growth as a scholar. My work will always reflect his influence.

Associate Professor Michael Newman's class on new media technology was integral to the development of my thinking about the iPhone. He has played a formative role in my growth as a scholar and his intellectual influence will forever shape my scholarship.

My best friend and colleague, Anna Donatelle, has provided me with the love, support and advice that enabled me finish this project. Her editorial work and criticism were essential to many of my arguments and analysis. This thesis would still be floundering without her help.

Last but certainly not least, I'd like to thank my family. I have been blessed by parents who selflessly provided for me the means with which to pursue my interests, and who gave me the unyielding support that has allowed me to take the risks and have the experiences that led to this thesis. Any success I might enjoy in life is also theirs to share with me. I am because they are.

Introduction

This thesis is about smartphones. It is an attempt to better understand the role this technology plays in society from the perspective of those who produce and advertise it. The contemporary environment in the United States and much of the modern world is constructed, to a significant extent, on networked digital technology. Hardware and software are the infrastructure of this information society. Technology facilitates, guides, protects, disrupts, and in many ways shapes social relations. It has become the way people interface with daily life, the way people learn, connect with friends and family, find work, entertainment, love, and escape. It's how money moves, how things get built. It plays music, movies, and television shows. It is the terrain on which our humanity unfolds.[1]

The meaning of life today is wrapped up in this digitally networked environment. Those who live in this environment and use this technology are part of a system, a network of people and objects, bound by social, cultural, economic and political ties. Relationships between people are shaped by what technology makes possible, as human intention is manifest in the way technology gets used. The information technology of today is filled with the tension of competing social groups who exploit the available tools for their advantage. By plugging in and participating in this highly mediated society,

[1] "The history of media is never more or less than the history of their uses, which always lead us away from them to the social practices and conflicts they illuminate." Carolyn Marvin, *When Old Technologies Were New: Thinking About Communications in The Late Nineteenth Century* (New York: Oxford University Press, 1988), 8.

users are inevitably touched by the social forces and relationships of power that crisscross the network.[2]

As personal computers and mobile devices are increasingly networked together, the forces that flow through the network are able to travel further, faster, and manifest in increasingly sophisticated ways. Today, the smartphone in particular is quickly becoming the networked digital technology most central to everyday life. It travels along with the user and keeps him or her constantly connected to the digital network. Because of this, the smartphone forms the basis of this thesis. Carrying a smartphone today opens up an exciting world of abilities, but it also documents the private life of the user in a detail not previously possible and leaves them vulnerable to the exploitation of this information. It is this fundamental tension within the smartphone that I hope to explore.

I chose the Apple iPhone as an object of analysis because of Apple's central role in the smartphone industry as well as its revered place within the culture. Apple's arrival to the cell phone market was greeted with great excitement.[3] Considered a breakthrough device, the original iPhone re-imagined the smartphone and changed the industry.[4] The touchscreen, operating system, web browser, and user-friendly interface defined the user experience of a pocket-sized networked computer in ways that made it relevant to a large

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[2] Technology "is at once an intention and an effect of a particular social order." Raymond Williams, *Television: Technology & Cultural Form* (New York: Schocken Books, 1975), 128.

[3] For a discussion of the religious-like anticipation of the iPhone, see Heidi Campbell & Antonio La Pastina, "How The iPhone Became Divine," *New Media & Society*, Vol. 12, No. 7 (2010): 1191-1207. For an exploration of the reasons for the original iPhone's success, see Joel West & Michael Mace, "Browsing As The Killer App: Explaining The Rapid Success of Apple's iPhone," *Telecommunications Policy*, Vol. 34 (2010): 270-286.

[4] For reviews that highlight the novelty of the original iPhone, see Walter Mossberg, "Testing Out The iPhone," *The Wall Street Journal*, June 27, 2007; see also Lev Grossman, "Invention of The Year: The iPhone," *Time*, November, 2007.

number of consumers.[5] Apple quickly became the world's largest smartphone manufacturer, and its devices, design aesthetic, and innovations continue to dominate the industry.[6]

As a specific site where social relations play out, the iPhone is full of the complexities, contradictions and tensions that are a part of modern human society. This thesis examines the way these contradictions coexist within smartphone technology by looking at how Apple has promoted the iPhone. To do this I conduct a comparative analysis of the promotional discourses that Apple uses to frame and sell the iPhone. I examine television advertisements that aired during the first five years of the iPhone, from 2007 to 2011. I also examine promotional material for Apple's iAd service, a mobile advertising exchange that allows advertisers to create customized ads and deliver them to specific users within the iPhone apps they use.

It becomes clear that Apple maintains a flexible definition of smartphone technology that can vary significantly. While the TV ads sell the iPhone to consumers by glorifying its ability to empower users, the iAd website sells users to advertisers by celebrating its market research and advertising abilities. By comparing these different discursive frameworks, I hope to show how iPhone users are placed in a compromised position by the very technology that ostensibly empowers them. The agency of users is complicated by a technical design that exploits personal information for commercial purposes.

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[5] Kyle Mickalowski, Mark Mickelson & Jaciel Keltgen, "Apple's iPhone Launch: A Case Study in Effective Marketing," *The Business Review Cambridge* Vol. 9, No. 2 (2008): 283-288.

[6] Kevin Bostic, "Apple's iPhone Holds 40% Share of U.S. Smartphone Market," *Apple Insider*, September 6, 2013.

This study is predicated on the idea that there is no natural place for technology within a society.[7] It is rather a negotiated process of contested meanings and varying practices. Since the adoption of smartphone technology is part of consumption processes that are publicly constructed and culturally informed, technology finds a place within a society and culture in part through the advertising discourses that construct meaningful frameworks.[8] Promoting new media technology is more than simply selling a product or brand, it is selling an outlook on life—an outlook that makes certain social practices seem obvious, desirable, even necessary.[9] To do this, advertising draws on life events, common experiences, familiar symbols, and biographic anecdotes to frame and define technology in specific ways.[10] Advertising discourse constructs systems of meaning that help shape cultural understandings and influence social practices.

While social practices are shaped by a number of factors such as peer groups, websites, product reviews, and news stories,[11] I have chosen to focus on advertisements because they are directly linked to the conditions of production. Apple produces the iPhone with particular ideas about its meaning and potential uses, but it must convey this

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[7] "Communications technologies have no 'natural' place in our homes or our culture." William Boddy, *New Media & Popular Imagination: Launching Radio, Television & Digital Media in The United States* (New York: Oxford University Press, 2004), 45.

[8] For a study of the role that advertising plays in the practices of mobile phone users, see Juan Miguel Aguado & Inmaculada Martinez, "The Construction of The Mobile Experience: The Role of Advertising Campaigns in the Appropriation of Mobile Technologies," in *Mobile Phone Cultures*, ed. Gerard Goggin (New York: Routledge, 2008), 2.

[9] Boddy, *New Media & Popular Imagination*, 53-4.

[10] For an explanation and discussion of these tactics, see Aguado & Martinez, "The Construction of The Mobile Experience," 2.

[11] Arun Vishwanath, "From Belief-Importance to Intention: The Impact of Framing on Technology Adoption," *Communication Monographs*, Vol. 76, No. 2 (2009), 182.

in a language and style that is meaningful to consumers. Promotional material for the iPhone is where Apple's interests take cultural form and is thus an important source of meaning.[12]

When people take up technology and adopt it into the routines and practices of everyday life, they do so within a context that includes the structural economic forces that brought the technology to market and sustain its production, as well as a cultural discourse that makes it personally relevant and meaningful. A technology such as the iPhone is both a material product that is produced and distributed, as well as a cultural artifact.

This is why my study of the iPhone is also informed by the "circuit of culture" which sees technology as a cultural artifact that exists within a specific historical and economic context and must therefore be explained through the five related processes of representation, identity, production, consumption, and regulation.[13] While such a comprehensive undertaking is beyond the scope of this study, it does engage with several moments along the cultural circuit. My interest here is in the representation of the iPhone within advertising discourse. I also provide a historical and economic context that engages with the processes of production and consumption. A more detailed and comprehensive study of the iPhone that analyzes and synthesizes all five processes of the cultural circuit would be a valuable project, especially as smartphone technology becomes increasingly common and central to social practices.

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[12] Aguado & Martinez, "The Construction of The Mobile Experience," 3.

[13] Paul du Gay, Stuart Hall, Linda Janes, Anders Madsen, Hugh Mackay, & Keith Negus, *Doing Cultural Studies: The Story of The Sony Walkman* (Sage: Thousand Oaks, 2013). For a discussion of the cultural circuit's relevance to the study of cell phones, see Gerard Goggin, *Cell Phone Culture: Mobile Technology in Everyday Life* (New York: Routledge, 2006), 6-7.

In adopting smartphone technology, users are embedded within mediated networks of social relations that bring information, knowledge and power coursing though the device, helping to construct social reality.[14] At the same time, smartphones give users agency to participate in the creation, circulation and contestation of discourse. The smartphone is therefore both an expression of social power, as well as a site where these social relations are contested and modified.[15] It is hoped that this study contributes to a deeper understanding of the role smartphone technology plays in the lives of users at a time in which this technology is growing increasingly central to everyday life.[16]

[14] For a phenomenological and poststructural perspective on the role of smartphone in the construction of reality, see Jason Farman, *Mobile Interface Theory: Embodied Space & Locative Media* (New York: Routledge, 2012).

[15] For a study of the way social conflict plays out through communications technology, see John Fiske, *Media Matters: Race & Gender in US Politics* (Minneapolis: University of Minnesota Press, 1996), 217.

[16] Smartphone ownership grew 10 percent a year between 2011 and 2013 to include 56 percent of U.S. adults by May, 2013. Pew Research Internet Project, ”Smartphone Ownership 2013,” by Aaron Smith, June 5, 2013; see also Pew Research Internet Project, “Cell Internet Use 2013,” by Maeve Duggan & Aaron Smith, September 16, 2013; see also Pew Internet Research Project, “Cell Phone Activities 2013.” by Maeve Duggan, September 16, 2013.

Chapter 1: The iPhone in Context

Despite the prominent cultural role played by Apple and its advertising campaigns, there are almost no systematic studies of iPhone advertisements.[17] The lack of preexisting frameworks provides an opportunity to articulate a critical context in which to interpret Apple's advertising discourse. To do this I provide a contemporary technical definition of the smartphone before looking at the social and economic origins of the information technology that composes the smartphone. Next, I discuss the history of Apple and the creation of the iPhone. I look briefly at the role of advertising, framing and branding in defining technology before I end this chapter by posing my research question and explaining the methodology I use to study the iPhone and iAd promotional material.

The Smartphone

Smartphones are part of a wave of new computer technology defined by their mobile connectivity.[18] While the smartphone is evolved from the cell phone—conceived in its image, supported by its infrastructure, and built on its platform—it is much more than a cellphone. The convergence of various information technologies into a single,

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[17] The only major study, which I address later in this chapter, is Taylor Moore, "Selling The iPhone or Selling iCapitalism: A Critical Analysis of Themes of Efficiency, Connection and Access in Apple's iPhone Advertisements" (2012). *Graduate Major Research Papers and Multimedia Projects*, Paper 8. For a study of Apple's advertising history that does not include the iPhone, see Jean Burgess, "The iPhone Moment, The Apple Brand, & The Creative Consumer: From Hackability & Usability to Cultural Generativity," in *Studying Mobile Media: Cultural Technologies, Mobile Communication & The iPhone*, ed. Larissa Hjorth et al. (New York: Routledge, 2012), 28-42.

[18] For a lengthy discussion of mobile computing, see Michael Saylor, *The Mobile Wave: How Mobile Intelligence Will Change Everything* (New York: Vanguard Press, 2012).

hand-held device has created a new technological configuration, one in which the cell phone is also a computer, an internet web browser, a camera, and many other things. When these features coexist and interact within a single device, there is a synergy that opens up a range of new technical and social possibilities that have been widely documented and studied.[19]

Because of the variety of cell phone technical configurations and designs, the smartphone is not easily defined. However, the key features that transform a regular cell phone into a smartphone are an open-ended operating system and a permanent internet connection. The internet connection is often maintained through cellular service and is frequently augmented by wifi signals, which allows users to access internet data from nearly anywhere. An operating system that is open-ended allows the device's software to be modified through updates and downloadable applications. Together these features make it possible to extend the device's capabilities by adding downloadable on-the-go software functionality. It is this combination of internet and extensible software that makes the cellphone "smart."[20]

Along with high-speed internet and social media, the Pew Research Internet Project sees mobile computing as a major technological revolution that is reshaping

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[19] For a look at the social, cultural, and economic impact of the iPhone, see Brian Chen, *Always On: How The iPhone Unlocked The Anything-Anytime-Anywhere Future & Locked Us In* (Boston: Da Capo Press, 2011); See also Larissa Hjorth, Jean Burgess & Ingrid Richardson (eds.), *Studying Mobile Media: Cultural Technologies, Mobile Communication, & The iPhone* (New York: Routledge, 2012); See also Pelle Snickars & Patrick Vonderau (eds.), *Moving Data: The iPhone & The Future of Media* (New York: Columbia University Press, 2012).

[20] For a discussion of the challenges of defining the smartphone, as well as a tentative proposal for a partial definition, see Steve Litchfield, "Defining The Smartphone," *All About Symbian*, July 16, 2010.

social relations and the ways people live their lives.[21] Entrepreneurs like Michael Saylor also see mobile computing as a revolutionary and disruptive technology having a profound impact on people and markets throughout the world, offering plenty of examples of how people have incorporated smartphone technology into their lives in ways that alter established social relations, business practices, and ways of being. Saylor, for example, point to the cost of smartphones compared to traditional computers and explains how these devices are quickly becoming a universal computing platform affordable even to some users in developing countries. At the same time, he observes, it is replacing physical products, services, and challenging the relevance of established industries.[22] The Pew, meanwhile, has empirically shown that the smartphone is becoming the common access point to the internet.[23] As technology writer Brian Chen likes to say, the smartphone unlocks an "anything-anytime-anywhere" experience that is remaking everything from social interaction and classroom learning to job searching and product creation.[24]

With one button, a touchscreen, and the App Store, the iPhone is a blank slate that allows for a highly customized user experience. The user's choice of software can make it a device for consumers, professionals, teachers, students, doctors, and even soldiers.[25] It can fit any niche and suit any lifestyle. This is the key characteristic of contemporary

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[21] Pew Research Internet Project, "Three Technology Revolutions."

[22] Saylor, *The Mobile Wave*, 5-6.

[23] The percentage of cell phone owners who go online using their phone nearly doubled from 31 percent in 2009 to 63 percent in 2011. Pew Research Internet Project, "Cell Internet Use, 2013."

[24] Chen, *Always On*, 12.

[25] For a discussion of the seemingly universal appeal of the iPhone, see Chen, *Always On*, 20.

smartphone technology—a radical interpretive flexibility that allows the device to be not just anything to anyone, but to access anything at anytime from anywhere. As Chen describes it, smartphones challenge the relevance of entire industries because purchasing one grants the user access to a cell phone, a digital camera, GPS, an MP3 player, and many other technologies that were previously purchased separately.[26] It is convergence that makes the smartphone so widely useful and inspires such grandiose claims about its revolutionary potential.

Convergence is the coming together of things that were previously separate.[27] Media convergence was first recognized in the early 1980s by Ithiel de Sola Pool, who described the erosion of a one-to-one relationship between a medium and its use. He noticed that not only was a single medium carrying signals that in the past required separate mediums, but that the same content was being delivered in multiple ways.[28]

By 2006, Henry Jenkins was pushing the well-established concept of convergence beyond the technical affordances opened up by devices like the smartphone. Convergence, he argues, presents a cultural shift as people put these new possibilities to use within their everyday lives, and these uses in turn restructure the social terrain. Jenkins explains convergence as the collision of old and new media—as the intersection of grassroots and corporate media—where the line between media producers and media

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[26] For a discussion of the challenge smartphones pose to certain established industries, see Chen, *Always On*, 41.

[27] Graham Meikle & Sherman Young, *Media Convergence: Networked Digital Media in Everyday Life* (New York: Palgrave Macmillan, 2012), 2.

[28] Ithiel de Sola Pool, *Technologies of Freedom: On Free Speech in An Electronic Age* (Cambridge: Harvard University Press, 1983), 23.

consumers is too blurry to recognize. For him, convergence refers to changes in technology, industry, culture and society that reflect the sensibilities of users.[29]

Graham Meikle and Sherman Young agree that convergent media implicates not just technology but content and practices. But they also emphasize that the significant characteristic of contemporary media—what makes convergence possible—is the digital network. It is digital networked technology that enables the complex relationships and sophisticated capabilities at the heart of convergence culture.[30] Meikle & Young's formulation of convergence strikes an appropriate balance between the technical abilities of technology and the cultural forms it takes. Specifications, designs and affordances are the horizons of possibility that enable social practice; they define the limits of a technology's meaningful use.[31] Therefore, the study of technology needs to be balanced between an understanding of the technical affordances, and the intentions and interests of both the institutions that produce, distribute, market, and profit from the technology, as well as the individuals who incorporate it into their lives. This is especially the case with converged computer technology in which the open-ended possibilities of information processing—what users are technologically capable of doing—are both expanded and narrowed in important ways by operating systems and user-friendly interfaces.

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[29] Henry Jenkins, *Convergence Culture: Where Old & New Media Collide* (New York University Press, 2006), 2-4.

[30] Meikle & Young, *Media Convergence*, 2-3.

[31] Roger Silverstone & Leslie Haddon, "Design & The Domestication of Information & Communication Technologies: Technical Change & Everyday Life," in *Communication By Design: The Politics of Information & Communication Technologies*, edited by Robin Mansell and Roger Silverstone, 44-74. New York: Oxford University Press, 1996.

The iPhone contains a number of technical affordances, such as wifi, cellular antenna, bluetooth, GPS, gyroscope, accelerometer, compass, cameras, microphones, fingerprint scanner, and proximity sensor. The convergence of these affordances allows the iPhone to sense both the physical and virtual world, to quantify, analyze, digitally interact with and manipulate them both. These technologies integrated together into a touchscreen interface invite developers and users to harness these elements in a variety of novel ways. In the process, a new experience of the world is opened up to users. Through convergence, smartphones modify the way people interface with their environment, with each other, and with the world.[32]

This new experience comes deeply embedded with issues of social power.[33] The embodied experience of this technology is part of a capitalist system of production and consumption. It is this larger context that is essential to understand the smartphone and to make sense of the new experience it creates.

Technology, Power & Control

While technology is adopted and incorporated into the everyday lives of ordinary people, it is also produced and distributed within a capitalist mode of production. Within

[32] Farman, *Mobile Interface Theory*.

[33] Farman, *Mobile Interface Theory*, 51-52. Silverstone & Haddon, "Design & The Domestication," 57-9.

the United States, consumer capitalism provides an important context for understanding smartphone technology and its social significance.[34]

In this section I look at the origins of the information society in order to provide a historical and economic context for the smartphone. I also discuss digital advertising and smartphone surveillance in order to provide a political economy of smartphone technology. If technology is an important site for the facilitation and contestation of social relations, the prevalence of certain kinds of technology and their affordances has an effect on the social conditions in what it enables people to do.[35] Here I draw on Michel Foucault's idea of the disciplinary society and Gilles Deleuze's idea of the control society to explore the changing nature of power within society and its relationship to the smartphone user.

Industrialization & The Control Crisis

The smartphone is an information technology and part of a larger historical process that has produced what many scholars call the information society. The information society is a nebulous concept that includes a variety of overlapping and conflicting definitions.[36] This study will rely on James Beniger's historical and economic approach, which focuses on the contemporary preeminence of those sectors of the

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[34] For a discussion of the role that consumer capitalism has played in the evolution of information and communication technology, see Daniel Czitrom, *Media & The American Mind: From Morse to McLuhan* (Chapel Hill: University of North Carolina Press, 1982), 75-81. See also Raymond Williams, *Television*, 128.

[35] John Fiske, *Media Matters: Race & Gender in US Politics* (Minneapolis: University of Minnesota Press, 1996), 115.

[36] For a discussion of the overlapping and conflicting definitions of the information society, see Frank Webster, *Theories of The Information Society* (New York: Routledge, 2002), 8-29.

economy concerned with the production and distribution of information and information technology—education, research and development, communications media, computers, finance, insurance, real estate, and advertising.[37] According to Beniger, the preeminence of information and information technology within society has its origins in the Industrial Revolution. The world had a speed limit for thousands of years, capped at the speed of wind, water, humans or animals, until the application of steam power in the 1840s. This led to a crisis in control as railroads and steamships began moving people, goods and information at unprecedented speeds. By the mid-1800s the entire material processing system—from resource extraction and refinement to production and distribution—was moving much faster than was previously possible across roadways and through canals, exceeding the human ability to adequately manage and control the growing complexity of the economy.[38]

The ability to maintain control became an urgent need within industrializing society. Control, Beniger says, is any "purposive influence towards a predetermined goal."[39] It requires information to interpret the world with and compare a current state to future goals, and it requires feedback to determine the results of any action and to plan future actions. This two-way movement of information is necessary to communicate influence and achieve intended outcomes. It is also a fundamental property of all stable

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[37] For Beniger's conception of the information society, see James Beniger, *The Control Revolution: Technological & Economic Origins of The Information Society* (Cambridge: Harvard University Press, 1986, 21-22.

[38] For specific discussions of the role that the Industrial Revolution played in stimulating innovations in information technologies, see Beniger, *The Control Revolution*, 10-12, 169-171, 213.

[39] Beniger, *The Control Revolution*, 35.

systems.[40] As a concept, control is merely the description of a natural and essential process. In practice, however, control affects the way people live their lives. Control can help keep people safe by managing the flow of automobile traffic and the movement of subway cars, or control can be oppressive, restricting bodily movement and an individual's access to information. Either way, information and the technology that collects, transmits, and analyses it is the essence of control, and it is how that technology gets taken up and used by people that matters.

Beniger describes the response to the mid-nineteenth-century crisis of control as the Control Revolution, a period of sustained technological and economic innovation that produced the information processing tools necessary to maintain adequate control and manage the flow of materials through the economy.[41] With the introduction of steam to the material economy in the 1840s, it took close to 50 years for the information-processing technology needed to manage speed and complexity to evolve into adequate means of control.[42]

This period saw the invention of new technology such as feedback devices, punch cards, interchangeable parts, modern accounting, continuous-process production, scientific management, the assembly line, rail networks, steamship lines, telegraph and telephone lines, a postal system, department stores, supermarkets, machine packaging,

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[40] For a definition and detailed discussion of the concept of control, see Beniger, *The Control Revolution*, 8, 35, 66, 434.

[41] For an explanation of the Control Revolution, see Beniger, *The Control Revolution*, 221-224.

[42] Beniger, *The Control Revolution*, 293-294.

and franchising.[43] There were also important innovations in organizational structures. As a centralized way to organize collective activity towards a common goal, bureaucracy became the means through which to control all other technologies.[44] The modern bureaucratic form emerged in the 1860s with increasing rationalization and a focus on the processing of information.[45] Centralized hierarchical authority, clear-cut divisions of labor and defined responsibilities, formal sets of rules governing decisions, and an impersonal orientation towards information characterized the new bureaucratic organization.[46]

Advances in office technology, key to this successful bureaucratic control, included modern typewriters, calculators, punch-card tabulators, messenger news services, press clippings, desktop telephones, and many other innovations that enhanced the ability of individuals and organizations to process information and control a fast and complex world.[47]

The mid- to late-19th century also saw the creation of electronic communication. The telegraph, telephone, and wireless communication severed the connection between

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[43] For detailed lists of information technology innovations, see Beniger *The Control Revolution*, 233-4, 245-6, 260-1, 272-3, 282-3, 303-4, 319-20, 325-6, 333-4, 352-3, 362-3, 379-80, 395-6, 400-1.

[44] For a discussion of the role of bureaucracy in methods of control, see Beniger, *The Control Revolution*, 13-15, 279.

[45] Rationalization increases the capability of information processing by decreasing the amount of information to be processed. Examples include standardized forms or the creation of time zones. Rationalization makes it "possible to maintain large-scale, complex social systems that would be overwhelmed by a rising tide of information." See Beniger, *The Control Revolution*, 15.

[46] For a discussion of bureaucracy, see Beniger, *The Control Revolution*, 13-15.

[47] For a discussion of innovations in office technology, see Beniger *The Control Revolution*, 281-283.

information and physical distance, opening up new dimensions of human social relations.[48] The instantaneous transmission of information and knowledge allowed for the management of large, complex enterprises, and the ability to effectively control physical processes from a distance.[49]

The production, distribution and consumption of goods and services are an enormously complex process that must find some kind of equilibrium for the capitalist system to work and remain relatively stable and profitable. As the industrial system became increasingly central to the U.S. economy throughout the nineteenth century, social relationships were deeply affected by the kinds of technology being used and incorporated into daily life.

The Disciplinary Society

In *Discipline & Punish*, Foucault describes the way power functions within industrial society to produce docile, disciplined bodies that fit well into the assembly lines and large, integrated, hierarchical organizations characteristic of this mode of

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[48] For a study of the social and cultural impact the telegraph had on American society, see James Carey, "Technology & Ideology: The Case of The Telegraph," in *Communication as Culture: Essays on Media & Society* (Boston: Unwin Hyman, 1989), 201-230. For a study of the social and cultural impact the telephone had on American society, see Michele Martin, "The Culture of The Telephone," in *Sex/Machine: Readings in Culture, Gender & Technology* (Bloomington: Indiana University Press, 1998), 50-74; see also Claude Fischer, *America Calling: A Social History of The Telephone to 1940* (Berkeley: University of California Press, 1992). For a study of the social and cultural impact that wireless communication had on American society, see Czitrom, *Media & The American Mind*, 60-88.

[49] For a look at the role of electronic communication technology in methods of control, see Mark Andrejevic, *iSpy: Surveillance & Power in The Interactive Era* (University Press of Kansas, 2009), 58-59; see also Carey, *Communication as Culture*, 201-203.

production.[50] In his disciplinary model of power, the major social institutions of modern society—school, factory, church, family, military, prison—serve as disciplinary molds, shaping thought and action in useful ways.[51] The physical boundaries of these institutions enclose people within a managed space where behavior can be monitored and modified.[52] This molding of individuals requires the rigid institutional boundaries to create a space in which information about individuals can be produced, analyzed and then used to modify or control behavior towards desired ends. Foucault offers the panopticon as the perfect architectural model for this, which is meant to suggest the way in which subjects under surveillance internalize the gaze and self-police their own behavior.

Within these institutional boundaries individuals are taught to function in useful ways, to conform to dominant ideas about what it means to be human and exist as an individual in a particular society at a particular historical moment.[53] Disciplinary power works so well within capitalism because it is highly productive—it orders, regiments, and produces the skills and abilities that makes possible the great industrial projects of the modern era.[54] Discipline is the logic of mechanical production applied to individual human subjects, a form of social control that works with and through industrial

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[50] Michel Foucault, *Discipline & Punish: The Birth of The Prison* (New York: Vintage, 1975), 242-244.

[51] Foucault, *Discipline & Punish*, 297-8.

[52] Foucault, *Discipline & Punish*, 141.

[53] Foucault, *Discipline & Punish*, 149.

[54] Foucault, *Discipline & Punish*, 211.

technology. It is a system of social power that forges the individual into a cog for the efficient operation of a global industrial capitalist machine.[55]

Fredrick Taylor's system of scientific management is an example of disciplinary power at work. Enclosed within factory space, subject to intense scrutiny, Taylor identified each necessary motion of assembly line workers and instituted strict guidelines for their proper performance.[56] This intense surveillance and control of activity is the "micro-physics of power" at the heart of Foucault's theoretical model.[57] At its core, the disciplinary society describes the diffusion of techniques for harnessing the power of the human body. Of concern here are the disciplinary techniques adopted by capitalist institutions such as manufacturers to maximize the productivity of their employees.

Foucault's theoretical concept is a useful way to see the tension between the interests of the economic order, the kinds of social relationships forged under industrial capitalism, and the dominant social institutions of society. But power works through culture as well, in minds and in practices. Foucault saw the power in information—that discourses circulating through society form the basis of perceived truth. This truth influences norms, values, beliefs, and actions so that power is in the ability to define what

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[55] For a discussion of the disciplinary society's relationship to industrial capitalism, see Gilles Deleuze, "Postscript On The Societies of Control," *October*, Vol. 59 (1992): 3-7.

[56] For a discussion of Fredrick Taylor and his system of scientific management, see Beniger, *The Control Revolution*, 294-297; see also Andrejevic, *iSpy*, 64-67.

[57] Foucault, *Discipline & Punish*, 139.

is true.[58] Electronic media offer a way for discourse to circulate widely—for ideas to compete—making communications technology a central site of social tension and an important tool in the attempt to control consumption.

Electronic Communication & The Control of Consumption

Thanks to innovations in information technology and new methods of management and control, the crisis in control was largely solved by the late 1880s.[59] But while mass production and distribution of material goods had become fast, efficient, and relatively well-managed, consumption lagged behind as production exceeded demand. Solving the emerging crisis of consumption in the late nineteenth-century meant manufacturing demand; it meant convincing people to buy the products of a particular company.[60] The solution utilized the technical and organizational innovations that solved the crises in production and distribution. Controlling consumption meant influencing and coordinating the behavior of large groups of free-thinking, autonomous individuals. A new advertising industry adapted information technology and used scientific processes developed to control material processes for use in the management of human thoughts

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[58] For detailed discussions of the way language and discourse shapes the perception of reality, see Michel Foucault, *Power/Knowledge: Selected Interviews & Other Writings 1972-1977* (New York: Vintage, 1980), 112; John Fiske, *Power Plays Power Works* (New York: Verso, 1993), 14; Michel Foucault, *The History of Sexuality, Vol. 1: An Introduction* (New York: Vintage, 1978); Michel Foucault, *The Order of Things: An Archeology of The Human Sciences* (New York: Vintage, 1970); Michel Foucault, *The Archeology of Knowledge & The Discourse on Language* (New York: Vintage, 1972).

[59] For a specific discussion of the solutions to the crisis in control, see Beniger, *The Control Revolution*, 291-294.

[60] For a look at the problem underconsumption posed to a system of mass production, see Beniger, *The Control Revolution*, 285.

and the control of human behavior.[61]

Information technology was put to work on national advertising campaigns in hopes of stimulating consumption.[62] Trademarks, brands, packaging, illustrated magazines, consumer holidays, and manipulative advertising messages helped influence consumer consciousness and increase demand.[63] This new use for information technology pushed its development in new directions. High-speed printing and broadcasting combined with organizational developments in news gathering and information sharing to provide a splendid apparatus for the influence of aggregate behavior.[64]

The rise of commercial radio in the 1920s, and commercial television in the late 1930s allowed information in the form of words and images to be broadcast and consumed widely, shaping common perceptions about the world in the process.[65] Raymond Williams describes the way technology takes on a cultural form by evolving

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[61] For a look at surveillance techniques designed to manage and control human behavior, see Andrejevic, *iSpy*, 72-92.

[62] For a look at early national advertising campaigns, see Beniger, *The Control Revolution*, 264-266.

[63] For a description of late nineteenth-century national advertising techniques, see Beniger, *The Control Revolution*, 352-354. For a discussion of the manipulative nature of ads from this period, see T. J. Jackson Lears, "From Salvation to Self-Realization: Advertising & The Therapeutic Roots of The Consumer Culture, 1880-1930," in *The Culture of Consumption: Critical Essays in American History, 1880-1980*, ed. Richard Wightman Fox and T. J. Jackson Lears, 1-38 (New York: Pantheon Books, 1983).

[64] For a discussion of the mass communication technology used in national advertising campaigns, see Beniger, *The Control Revolution*, 271-273. For a study of the way the public relations industry used mass communication technology to influence public opinion, see Stuart Ewen, *PR! A Social History of Spin* (New York: Basic Books, 1996).

[65] For a discussion of the way early radio broadcasts synchronized the minds of Americans, see Michele Hilmes, *Radio Voices: American Broadcasting, 1922-1952* (Minneapolis: University of Minnesota Press, 1997), 11-33; see also Czitrom, *Media & The American Mind*, 60-88.

for specific uses within a particular kind of society.[66] Electronics manufacturers, for example, conceived radio broadcasting as a way to sell radio equipment, and this promotional use of broadcast quickly evolved into the heart of a commercial media system. Advertisers produced most of the network programming and broadcasters sought the widest audience possible. The control of broadcasting became the control of information and the power to shape knowledge and action. Broadcasting evolved within this commercial context as a vehicle for persuasive messages designed to push social behavior towards the interests of producers.[67]

While the advertising and public relations industries developed sophisticated techniques for the use of broadcast media to influence consumer behavior, the ability to broadcast advertising messages is only part of the attempt to control consumption.[68] Control, as Beniger says, also requires feedback in the form of consumer surveillance in order to craft ad campaigns, target the right demographics, and gauge the effectiveness of various appeals.[69] David Lyon defines surveillance as the systematic gathering of intelligence to provide the feedback and insight necessary to modify or manage some

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[66] See Williams, *Television*. He explains that new machines and gadgets are "the applied technology of a set of emphases and responses within the determining limits and pressures of industrial capitalist society" (27). "Broadcasting was developed not only within a capitalist society but specifically by the capitalist manufactures of the technological apparatus" (34). Within the United States, advertising "became the feature around which radio and television were organized, as well as the main source by which they were financed" (68).

[67] For a look at the role advertising played in the creation of commercial broadcast systems, see Czitrom, *Media & The American Mind*, 73, 81-2, 164.

[68] For a detailed study of persuasive techniques, see Jacques Ellul, *Propaganda: The Formation of Men's Attitudes* (New York: Vintage Books, 1965); see also Edward Bernays, *Propaganda* (Brooklyn: IG Publishing, 1928); see also Walter Lippmann, *Public Opinion*, (Transaction Publishers, 1932); see also Ewen, *PR!*

[69] For a discussion of the concept of feedback, see Beniger, *The Control Revolution*, 287, 376.

kind of behavior.[70] From managing the indigenous populations of imperial colonies, to the scientific management of industrial production, to the market research used to control consumption, surveillance is a necessary activity for any form of control.[71]

Like control, surveillance is not an inherently nefarious practice, but a fundamental part of modern societies. The intended purpose of surveillance can vary based on the social situation in which it's employed. Workers, for instance, are surveilled in a way that differs from consumers, which differs from patients, criminals, or children. The type of surveillance employed depends on the type of control that is needed.[72]

By the early 1900s, the attempt to control consumption relied on new market research techniques such as surveys, house-to-house interviews, data collection, and statistical analysis in order to better understand consumer behavior and thinking. Advertisers began to gather information about their target audience in greater detail, as businesses wanted to know who produced, who sold, who bought, when, where, how, and why. Such information revealed where to put retail outlets, the effectiveness of particular messages, audience sizes, and the subtleties of consumer behavior.[73]

The early 1900s was a boom time in the use of these new surveillance techniques to study consumers and produce the kinds of information useful to advertising

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[70] David Lyon, *Surveillance Studies: An Overview* (Malden, MA: Polity Press, 2007), 14.
[71] For a look at early forms of colonial surveillance, see Christian Parenti, *The Soft Cage: Surveillance in America from Slave Passes to The War On Terror* (New York: Basic Books, 2003), 13-42. For a look at the scientific management of the workplace, see Andrejevic, *iSpy*, 64-74. For a look at methods and technology of market research, see Beniger, *The Control Revolution*, 376-388.

[72] For a look at the variety of purposes for which surveillance is employed, see Lyon, *Surveillance Studies*, 14-18.

[73] For a closer look at these techniques and the insight they can yield, see Beniger, *The Control Revolution*, 381; see also Czitrom, *Media & The American Mind*, 126.

campaigns. William Shryer, a publisher and advertiser, pioneered behavioral research that found consumers do not react to reason and logic, but to visual stimuli, emotional appeals, inference and allusion. George Gallup discovered that nudity and sex appeal draw the most attention. Arthur Nielsen conducted telephone interviews and installed "audimeters" on household radios to recorded when a radio was on and to which frequency it was tuned in order to determine the relative popularity of each show.[74]

Information technology began to evolve partly within this context, as a tool for the scientific study of consumers, and a medium through which to transmit persuasive advertising messages. Through increasingly sophisticated means, advertisers have since grown adept in their ability to understand consumers and tailor their persuasive messages accordingly. What began with the need to manage the speed of steam power became the tools to manage demand, and a central feature in the everyday lives of billions of people.

As a descendent of this revolution in control technology, the smartphone empowers users with information technology designed to manage and control their digital world. But it, too, evolves within a commercial context and doubles as a market research and advertising platform. The smartphone is quickly becoming a key site for the contemporary control of consumption and, in this context, is clearly an important technology in the contemporary organization of society. Because technology enables what a society is capable of,[75] and because it opens up new fronts for conflict within

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[74] For a closer look at the people and methods of early market research, see Beniger, *The Control Revolution*, 384-8; see also Czitrom, *Media & The American Mind*, 126.

[75] Beniger, *The Control Revolution*, 287.

human social relationships,[76] the smartphone is intertwined with the relationships of power that crisscross society.

The Control Society

Beniger locates the beginning of the information society in the 1930s, when those sectors of the U.S. economy concerned with the production and distribution of information rose to preeminence and outpaced the industrial sector from which they were born.[77] As industrial capitalism began to recede as an organizing force within society, the information technology that had evolved for management and control came to define a new kind of social environment. While Foucault's concept of the disciplinary society describes the way power works to produce productive individuals within industrial capitalism, Gilles Deleuze's concept of the control society describes the way power works within information capitalism. If the disciplinary society is characterized by rigid institutional boundaries, mechanical technology, factory production, and strict discipline, the control society is characterized by a breakdown of institutional borders facilitated by computer technology, the corporation, and a fluid, dynamic form of control called modulation.[78]

Modulation is a technical term in the electronics and telecommunications industries that refers to the process of varying the properties of a signal in order to

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[76] Marvin, *When Old Technologies Were New*, 8.

[77] Beniger, *The Control Revolution*, 23.

[78] Deleuze, "Postscript," 3-7.

transmit information.[79] It is also a musical term that refers to the process of changing from one key to another in a way that creates a structure or form in a piece of music.[80] Both of these definitions describe a process of manipulation that produces a desired effect. This is the sense in which Deleuze applies the term to people within an information society. If people interpret the world beyond their own directly lived experience based on the information that reaches them, and their behavior is in part based on that construction of the world, then the manipulation of that information can modify, or modulate, behavior. This form of control is adaptive, mobile, and automated. It uses information collected about an individual to fine-tune the information provided to them in an attempt to induce some kind of belief or behavior. Modulation, like the rigid institutional molds of the disciplinary society, is focused on individual bodily behavior in order to make that body productive within the existing capitalist system.[81]

The control society has been an influential model for thinking about contemporary

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[79] Wikipedia, "Modulation," accessed May 20, 2014, http://en.wikipedia.org/wiki/Modulation.

[80] Wikipedia, "Modulation (Music)," accessed May 20, 2014, http://en.wikipedia.org/wiki/Modulation_(music).

[81] For elaborations on Deleuze's concept of modulation, see Wendy Chun, *Control & Freedom: Power & Paranoia in The Age of Fiber Optics* (Cambridge: The MIT Press, 2006); Alexander Galloway, *Protocol: How Control Exists After Decentralization* (Cambridge: The MIT Press, 2004); Alexander Galloway & Eugene Thacker, *The Exploit: A Theory of Networks* (Minneapolis: University of Minnesota Press, 2007), 58-59; Stephen Wicker, "Cellular Telephony & The Question of Privacy," *Communications of The ACM*, Vol. 54, No. 7, (2011): 95.

forms of power.[82] Taking up this model in his analysis of surveillance, Andrejevic describes rigid institutional enclosures as unnecessary for the forging of productive individuals when key elements of the world are connected to the digital network. He describes the network as a kind of flexible enclosure, one in which network technology like cell phones, credit cards and web browsers produce all kinds of data about an individual as they go about their lives. This connectivity allows workers to be on-call wherever they are, students to learn from a distance, and manufacturing to be outsourced. It also makes people productive no matter where they are or what they do. Andrejevic calls this the de-differentiation of labor and leisure, where work can happen in leisure and domestic spaces, and each person produces value with the data extrapolated from any part of their lives.[83]

The control society has also been persuasive in thinking about the relationship between people within the digital enclosure and the data their lives produce. Within the control society, individuals are an abstract concept, a forgotten fleshy referent about whom massive data profiles are collected. The individual embodied being that was the focus of disciplinary power is of less concern to the network. The individual is rather understood as a node on the network, an assemblage of data points within databases. The network doesn't see unique individuals but rather "dividuals," the unique data profiles

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[82] For elaborations on Deleuze's concept of the control society, see Andrejevic, *iSpy*, 106-8; Chun, *Control & Freedom*; Matthew Fuller, *Media Ecologies: Materialist Energies in Art & Technoculture* (Cambridge: The MIT Press, 2005), 152; Galloway, *Protocol*, 12; Galloway & Thacker, *The Exploit*, 58-60; Andrejevic, *iSpy*; Michael Hardt & Antonio Negri, *Multitude: War & Democracy in The Age of Empire* (New York: Penguin Press, 2004); Lyon, *Surveillance Studies*, 60-61; Trebor Scholz (ed.), *Digital Labor: The Internet As Playground & Factory* (New York: Routledge, 2013); Wicker, "Cellular Telephony."

[83] Andrejevic, *iSpy*, 106-7.

that collectively compose the aggregated databases of personal information.[84]

Alexander Galloway and Eugene Thacker explain that while individuation within the disciplinary society produces a distinct subject, the process of individuation within the control society produces a dynamic subjectivity that can be continually modulated.[85] If the institutions of the disciplinary society are like molds or castings, designed to forge individuals into cogs for an industrial system, the spatial dispersion of institutional authority within the control society is like computer algorithms designed to modulate or program dividuals for productive behavior within information capitalism.[86]

Stephen Wicker picks up on this idea and describes modulation as an adaptive control mechanism in which the information gathered about someone is used to modify the information provided to them in an attempt to induce some kind of behavior. Modulation is really the essence of control—purposive influence towards a predetermined goal based on feedback from the subject—and, as Wicker suggests, it takes its most obvious form in the targeted advertising and personalized information of digital advertising.[87]

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[84] "Deleuze's neologism comes from the word "*in*dividuate." Dividuation would thus be the opposite: the dissolving of individual identity into distributed networks of information." Galloway, *Protocol*, 12. For further discussion of the role that database profiles play in the operation of power within the control society, see Deleuze, "Postscript," 4; Fuller, *Media Ecologies*, 152; Galloway & Thacker, *The Exploit*, 12, 58-60.

[85] Galloway & Thacker, *The Exploit*, 38.

[86] Deleuze, "Postscript," 3.

[87] Wicker, "Cellular Telephony," 95.

Digital Advertising

Information technology has evolved within a social context dominated by capitalist interests, and Joseph Turow has detailed the ways networked digital technology allows advertisers to deploy new techniques for the observation, recording, analysis, and targeting of individual consumers.[88] A key characteristic of digital technology is that it generates data about each transaction that occurs.[89] Networks of cookies and web bugs were created to track users across websites, record what they click on, where they linger, what they buy, and how they behave online.[90] But as networked digital technology has proliferated, even moving through the physical world—from driving to swiping credit cards to visiting the mall to hanging with friends—leaves behind a digital trail.[91] These bits of personal data are collected, stored, shared, sold, analyzed, and exploited in a large and growing market for personal information. Data aggregators such as Experian, Acxiom, or Equifax collect personal information from both online and offline sources to create detailed profiles available to their customers in law enforcement, government, insurance, and market research.[92]

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[88] Joseph Turow, *The Daily You: How The New Advertising Industry is Defining Your Identity & Your Worth* (New Haven: Yale University Press, 2011).

[89] Andrejevic, *iSpy*, 2.

[90] For a history of cookies and web bugs, see Turow, *The Daily You*, 34-64.

[91] Fuller, *Media Ecologies*, 150-2.

[92] For a detailed look at the collection of personal information into centralized databases for the purposes of digital advertising, see Eli Pariser, *The Filter Bubble: What The Internet is Hiding From You* (New York: Penguin Press, 2011); see also Turow, *The Daily You*, 2-12; see also Fuller, *Media Ecologies*, 150-2.

Much of the driving force behind the contemporary development and deployment of digital surveillance is the market research needed to create customized advertisements. Along with Turow, Oscar Gandy, Jr. has explored the way data aggregation and analysis is used in this context for the purposes of sorting individuals based on their perceived economic value or worth.[93] Using data profiles, corporations can determine which individuals are worth targeting and which individuals are a waste of resources. Data analysis can thus classify people into conceptual groups according to demographic and psychographic characteristics, enabling advertisers to personalize sales pitches to individuals across websites and devices in an attempt to most effectively and efficiently persuade them.[94]

The kind of personal data available to advertisers is becoming increasingly detailed as more and more of daily life intersects with digital networks. Eli Pariser details the way techniques such as persuasion profiling allow companies that track purchases over time to mine that data in ways that reveal the types of marketing messages to which individuals may be most susceptible. Persuasion profiling can even be combined with sentiment analysis, which mines Facebook posts, text messages or personal emails to identify an individual's emotional state.[95] The goal, then, is to be able to exploit information about a particular person in order to target them with a particular product at

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[93] Oscar Gandy, Jr., *The Panoptic Sort: A Political Economy of Personal Information* (Boulder: Westview Press, 1993).

[94] For a detailed look at the classifying of certain consumers as either a legitimate advertising target or a waste of resources, see Turow, *The Daily You*, 88-110; see also Gandy, *The Panoptic Sort*, 15-18.

[95] Pariser, *The Filter Bubble*, 120-123.

the right time with the right message in the right place at the right price in order to maximize the ad's effectiveness—to modulate consumer behavior.[96]

Turow describes how this micro-targeting is accomplished through advertising exchanges, where companies such as Google, Microsoft, or Apple bring web developers interested in monetizing their content together with advertisers interested in taking advantage of the digital medium's ability to deliver targeted advertising. The online exchange allows advertisers to purchase the ability to reach particular individuals with personalized advertisements across multiple websites and devices.[97] This means advertisers no longer need to rely on content producers such as the *New York Times*, CNN, or National Public Radio to assemble an audience. This kind of digital advertising is about customization and personalization, about communicating differentially with consumers in order to maximize the effectiveness of every ad impression.[98] When broadcasting creates large imagined communities of relatively diverse interests, it's somewhat inefficient for advertisers to reach a particular demographic.[99] Cable is able to fragment these communities into smaller niche segments, and the internet atomizes them into individual pieces. Advertising techniques have evolved with these increasingly atomizing information technologies to the point where an individual can be isolated and directly addressed according to his or her own personal interests.

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[96] For a discussion of digital advertising as an example of modulation, see Wicker, "Cellular Telephony," 95. For more on the role of personal data in the customization of advertising, see Turow, *The Daily You*, 79-80.

[97] For more on advertising exchanges, see Turow, *The Daily You*, 79.

[98] Gandy, *The Panoptic Sort*, 2.

[99] For more on the role of broadcast media in creating imagined communities, see Hilmes, *Radio Voices*, 11-33.

Turow explains that this situation is upending the traditional relationship between advertisers and content creators. Advertisers are no longer reliant upon the prestige of specific content creators when the same target audience can be reached individually anywhere on the web. As a result, web publishers have lost a lot of their power, and essential advertising support has disappeared. If advertising has traditionally funded most media content, the changing nature of advertising means publishers must adapt. This often takes the form of increased tracking, profiling, and collecting of information by web publishers about their visitors. This information is then used to personalize content for visitors in an effort to keep them on the site longer and to get them to click on as many links as possible. This also means adapting editorial content to work with and reinforce the advertising messages that get served alongside or even inside the content.[100]

Personalized advertisements mean more relevant ads, but personalized content has much broader implications. As both Pariser and Turow point out, when Google filters search results based on an individual's profile, or when *The New York Times* displays news stories a reader is statistically most likely to click on, these actions create a personalized "filter bubble" that shows different people different mediated versions of the world, all designed to affect some aspect of their behavior.[101] This is a fundamental breakdown between the editorial integrity of content creators and the interests of

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[100] For a detailed discussion of the consequences of the changing relationship between advertisers and publishers, see Turow, *The Daily You*, 2-3, 72-4, 121-4, 190; see also Pew Research Journalism Project, "A Deeper Look At The Digital Advertising Landscape," by Jesse Holcomb & Amy Mitchell, March 26, 2014.

[101] Pariser, *The Filter Bubble*, 9-10; Turow, *The Daily You*, 192-197.

advertisers.[102] Advertisers have always been interested in blending their messages with editorials to avoid the skepticism directed at overt sales pitches, but publishers are increasingly forced to bow to advertiser wishes, which often takes the form of native advertising such as advertorials, blended and sponsored content that makes it purposefully difficult for readers and viewers to separate a sales pitch from news and other information.[103]

As Pariser points out, this entire personalization process is almost completely invisible to users.[104] This is an important point for Wendy Chun, who sees invisible digital control as a fundamental characteristic of power within the control society[105] However opaque, this algorithmic process hides real effects. By revealing some possibilities while hiding others, personalization filters present a world that helps shape a person's options, opinions, and can influence individuals while remaining completely hidden.[106]

The use of digital networked technology to collect, sort, analyze, target ads, and personalize content is an important context in which contemporary technology is evolving. It is also a concrete example of the way power works in the control society to produce productive individuals. Labor in digital capitalism does not require the same disciplining that factory labor under industrial capitalism required. In adopting

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[102] Turow, *The Daily You*, 118.

[103] Turow, *The Daily You*, 128-9, 131-137.

[104] Pariser, *The Filter Bubble*, 106-7.

[105] Chun, *Control & Freedom*, 9.

[106] Pariser, *The Filter Bubble*, 112-113.

smartphones, using the internet, participating in social networks, and simply living within the information society, people are value-producing laborers—first in the data they produce and second as subjects of the modulation process.[107]

This modulation process only grows increasingly intensified as market-research surveillance and advertising migrates to the always-on, always-connected capabilities of the smartphone. Now that more than half of the U.S. population owns a smartphone[108] and the device has become a primary means for accessing data on the internet,[109] smartphones provide market researchers with a new level of detail about users, and intimate access to their private lives.

Smartphone Surveillance

The smartphone is quickly becoming the most important medium in digital surveillance because of its mobility, wide adoption, and because it provides a source of personal data that is extremely detailed. If the smartphone is always-on, always-connected, and in a constant state of sensitivity to both the physical and the virtual world, then the data it produces about the user is an always-on, endless stream of location data, orientation data, and transactional data—behavioral data of all manner on a scale never before achieved.[110]

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[107] For a collection of essays on the changing nature of labor in a digital economy, see Scholz, *Digital Labor*; see also Andrejevic, *iSpy*, 29-32.

[108] Pew Research Internet Project, "Smartphone Ownership 2013."

[109] Pew Research Internet Project, "Cell Phone Activities 2013."

[110] Jesus Mena, *Data Mining Mobile Devices* (New York: CRC Press, 2013), 1; Turow, *The Daily You*, 149-150.

As such, the smartphone is a market research device of unparalleled potential. It converts not just email, texting, social networking, phone calls, internet browsing and app usage into valuable data, but it can also sense location, motion, proximity, and over time, the combination of all these data points creates patterns of behavior that describe aspects of a person's life in tremendous detail. While the information collected about individuals from desktop internet use is relatively narrow, reflecting only what users do while online, smartphones capture an entirely new dimension of real-world physical behavioral data.[111] This excites advertisers like Jesus Mena, who appreciates that the device is typically inseparable from its user. As he points out, "the device *is* the consumer."[112] Habits, routines, and the context of a consumer's life, captured in smartphone data, provide an invaluable resource for advertisers to better understand their targets and to deliver more effective messages.[113]

Just like internet ad exchanges that bring developers and advertisers together to produce effective targeted advertising across websites, mobile ad networks provide targeted on-the-go advertising served directly to smartphones.[114] But while internet ad exchanges are predicated on the tracking capabilities of extensive networks of cookies and web bugs embedded in the web browsers of desktop computers, these tactics are much less effective on smartphones. While cookies do work on some mobile browsers,

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[111] Krishna Subramanian, "Don't Walk Into Walls: Finding The Real Value of Mobile Location Data," AdExchanger, May 22, 2013.

[112] Mena, *Data Mining*, 1.

[113] For an exploration of the ways behavioral data can be exploited for advertising purposes, see Subramanian, "Don't Walk Into Walls."

[114] For an in-depth explanation of mobile ad exchanges, see Mena, *Data Mining*, 38.

this isn't always the case. Apple's mobile browser, Safari, for example, blocks all third-party cookies. This inconsistency makes tracking and targeting smartphone users a new challenge for advertisers and has pushed the tracking technology needed to target smartphone users in new directions.[115]

Instead of trying to make cookies work, companies such as Flurry partner with app developers to embed tracking software in hundreds of thousands of apps.[116] When users download these apps to their device, personal information about the user and technical data about the device is collected and shared with advertisers.[117] This surreptitious surveillance by the apps on a user's smartphone is mostly invisible, which makes it a challenge to avoid and a consequence of adopting the technology.

Other mobile marketing companies such as Velti have developed a systematic way to access identification numbers uniquely assigned to each mobile device. In a process called device fingerprinting, companies such as Drawbridge can use behavioral patterns and statistical modeling to link several devices to the same owner, granting them the ability to track and target individuals not just across websites and apps but across different devices as well—from smartphone to desktop to laptop to tablet.[118]

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[115] Turow, *The Daily You*, 152-3.

[116] For a look at the company Flurry, see Claire Miller & Somini Sengupta, "Selling Secrets of Phone Users to Advertisers," *The New York Times*, October 5, 2013.

[117] For a description of this process, see Mena, *Data Mining*, 69. For an investigation into these opaque tactics, see Scott Thurm & Yukari Kane, "Your Apps Are Watching You," *The Wall Street Journal*, December 18, 2010.

[118] For a discussion of device fingerprinting, see Mena, *Data Mining*, 45-6; see also Turow, *The Daily You*, 152-3. For a look at the company Drawbridge, see Miller & Sengupta, "Selling Secrets."

From every angle the smartphone is a surveillance technology. Whether it's connecting to cell towers or wifi signals, downloading apps, getting directions, sending emails, making phone calls, text messaging, or web browsing, smartphones produce valuable information and offer advertisers direct, on-the-go access to users as they live their lives. As the convergence of all the information technologies that advertisers have used to attempt the control of consumption, the smartphone is perhaps the most sophisticated market research device yet created.

However, despite all the technological advancements that shape contemporary advertising, and despite the desires of advertisers to take advantage of new technology to influence consumer behavior and control consumption, it is an open question whether these techniques are as successful or as persuasive as Turow, Pariser, or Deleuze suggest. Digital advertising and personalization are inevitably deployed unevenly across the breadth of society. Some techniques are more sophisticated than others, some strategies less successful than others, some intentions simply unrealistic in the complex world of vast data banks, changing practices, evolving technology, and in light of the agency of individual consumers. While marketers certainly believe that using data about consumers to customize their internet experience is a desirable and effective tactic, many are willing to admit that they don't yet know how to adequately implement such a campaign.[119]

Advertising and the attempt to control consumption is just that—an attempt. While producers and their hired media managers work very hard to instill in consumers attitudes, opinions, world views, and desires that serve the economic interests of producers, their hard work is always complicated by the agency of individual consumers

[119] MarketingCharts, "While Recognizing Its Importance, Most Marketers Say They Struggle With Personalization," April 22, 2013.

who may or may not be persuaded and who make their own meanings independently from the intentions of advertising messages. This is not to say that advertising is or isn't effective in the forms that it takes. This is instead to say the world is complex and the meanings circulated by advertisers coexist with other competing meanings, and that individuals make sense of their own world with all of the messages that reach them.

Nevertheless, what I have tried to do is provide a historical, economic and technological context for the iPhone. I have tried to show how the affordances of contemporary smartphone technology offers advertisers unprecedented access to and information about consumers, regardless of whether they are actually able to put that access and information to use to effectively modulate consumer behavior. I have also tried to show that part of the fundamental structure of smartphones is a system of surveillance designed to exploit user data for the benefit of advertisers. This is the logic of advertising applied to mobile, networked digital technology, and a major social context for the evolution of smartphone technology.

Apple & The iPhone

Steve Jobs and Steve Wozniak founded Apple Computer in 1976 with the goal of bringing an easy-to-use computer to market.[120] The Apple I, Apple II, and Macintosh helped make personal computers increasingly common and accessible to non-technical consumers throughout the 1970s and 1980s.[121] Apple provided a complete desktop

[120] For a brief history of Apple, see David Yoffie & Renee Kim, "Apple Inc. in 2010," Harvard Business School, March 21, 2011.

[121] Chen, *Always On*, 22.

solution, making the hardware, software and peripherals that worked together as a simple plug-and-play ensemble.[122]

This focus on a simplified, intuitive, user-friendly computing experience allowed popular access to otherwise complex technology. As such, Apple's products have always expressed a tension between an "open" and "closed" operating system. The seamless usability of intuitive interfaces and automated operations characteristic of Apple products require a closed, centrally controlled system. This stands in stark contrast to the kind of open, hackable system that invites technical experimentation, but requires expertise and a sophisticated understanding of complex technology. While an open architecture is highly generative because it allows the freedom to experiment, the user experience is often inconsistent and unfriendly to novices. A closed architecture, on the other hand, while highly controlled, offers a consistent, familiar, and often seamless user experience.[123] As Steve Jobs liked to say, "it just works."[124] But it requires restricting the freedom to modify or hack the device in order to facilitate the kind of glitch-free usability characteristic of Apple products.[125]

Apple computers embodied the move towards usability in personal computing by adopting the graphical user interface in the mid-1980s, insulating the user from the technical code that actually runs the machine, thereby helping to domesticate desktop

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[122] Yoffie & Kim, "Apple, Inc.," 2.

[123] For a discussion of hackability and generativity in computer design, see Jean Burgess, "The iPhone Moment," 30; see also Jonathan Zittrain, "The Generative Pattern," in *The Future of The Internet & How to Stop It* (New Haven: Yale University Press, 2008), 67-100.

[124] TechCrunch, "It Just Works," by MG Siegler, June 8, 2011.

[125] Zittrain, *The Future of The Internet*, 101.

computer technology.[126] Apple continued this tradition of a closed, useable architecture with the release of the all-in-one iMac in 1998. Then, with the introduction of the iPod in 2001, the company began to move beyond desktop computing. Apple recognized the increasingly entrenched digital lifestyle of consumers, and re-conceived the Mac as a digital hub to control, integrate, and add value to a proliferating ecosystem of peripherals such as digital cameras and MP3 players. The inclusion of iLife, a collection of digital lifestyle software, allowed Mac users to manage photos, edit video, and record music right out of the box.[127]

Apple's vision of the digital hub reached fruition with the iTunes Music Store. Launched in 2003, it was the first site to offer legally sanctioned music downloads on a pay-per-song basis. iTunes was designed to work synergistically with the iPod, each adding value to the other, which had the effect of catapulting the iPod to a 90-percent share of the MP3 player market, while iTunes quickly became the premier music store in the world, boasting the largest music catalog. The service soon expanded beyond music to include audiobooks, TV shows and movies, becoming a prime source for most digital media content. Apple's digital hub strategy paid off, and this successful "tethering" of iTunes and iPod was the strategic context in which the iPhone was designed and developed.[128]

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[126] Burgess, "The iPhone Moment," 32-3.

[127] For a discussion of Apple's digital hub strategy, see Yoffie & Kim, "Apple, Inc.," 6.

[128] For a discussion of the role of iTunes in Apple's digital hub strategy, see Yoffie & Kim, "Apple, Inc.," 8; see also Chen, *Always On*, 76.

The iPhone was released in 2007 to great fanfare. It offered a number of innovations that continue to define the smartphone today, most significantly a large touchscreen, virtual keyboard, and desktop-style web browsing. These features enabled a new mobile computing experience that allowed users to navigate the web, watch YouTube videos, and capture and share photos, all with an intuitive, user-friendly interface that made it easy to use and widely accessible.[129]

The launch of the iPhone was in many ways the culmination of Apple's digital hub strategy. Recognizing Apple's newly established identity not as the computer company of its origins but as a digital convergence company, Steve Jobs announced that "Apple Computer" would be renamed "Apple Inc." during the 2007 iPhone keynote address.[130] This vision proved prescient when within two years of its launch iPhone sales accounted for 30% of Apple's total revenue.[131]

What was immediately apparent and heavily criticized was the closed architecture of the iPhone. Jonathan Zittrain called it a "tethered appliance," centrally controlled by Apple, linked to the company in ongoing communication, closed to third-party

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[129] For a discussion of the public reception of the original iPhone, see Mickalowski, Mickelson & Keltgen, "Apple's iPhone Launch," 4-5; see also Saylor, *The Mobile Wave*, 32; see also West & Mace, "Browsing As The Killer App," 275-277; see also Yoffie & Kim, "Apple, Inc.," 9.

[130] "MacWorld 2007 - iPhone Introduction," YouTube Video, 1:17:26. Apple keynote address, posted by AppleKeynotes, July 10, 2013.

[131] Yoffie & Kim, "Apple, Inc.," 10.

developers, and fortified against unauthorized modification. Like nearly all previous Apple products, the iPhone was a triumph of usability over hackability.[132]

Yet, despite its reluctance, Apple soon released a software development kit for third-party programmers and in June 2008 launched a platform to distribute software called the App Store. While Apple maintains strict control over the entire shopping experience—including deciding which apps are allowed, which are not, and taking a cut of all sales—it was also the first outlet that made it easy to distribute, access and download new software to a mobile device. The App Store allowed users to browse hundreds of thousands of applications and it allowed developers a platform that put their product in front of hundreds of millions of iOS users. Offering an ever-increasing array of capability-extending software, the App Store, like the iTunes Store before it, greatly increased the value of the iPhone. Within 18 months, over four billion applications were downloaded, generating billions of dollars in revenue for Apple and third-party app developers.[133]

This kind of control and distribution was enabled by Apple's vertical integration. In producing both hardware and software Apple creates a closed, controlled ecosystem of devices,[134] operating systems,[135] applications,[136] and services[137] that coordinate the digital

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[132] Zittrain, *The Future of The Internet*, 1-5, 106. For additional criticism of the iPhone's architecture, see Burgess, "The iPhone Moment," 29-30; see also Chen, *Always On*, 73-81; see also West & Mace, "Browsing As The Killer App," 278.

[133] For a discussion of the App Store, see Mickalowski, Mickelson & Keltgen, "Apple's iPhone Launch," 4; see also West & Mace, "Browsing As The Killer App," 278; see also Yoffie & Kim, "Apple, Inc.," 11. For a discussion of the restrictions that Apple placed on the App Store, see Chen, *Always On*, 91-92.

[134] Such as the iMac, iPod, iPhone, iPad, MacBook, and Apple TV.

life of users. Users experience a customized, fluid interaction that makes the power and potential of networked information technology easily wielded. Apple products offer mastery over movies, photos, music, connecting with friends—the essential elements of social life in an information society. At the same time, Apple sets up tollbooths and charges users to move through the ecosystem, making money on hardware, software, services, and the user data it all generates. Apple's vertical business model makes them not so much product designers as experience designers. The user experience is managed in a way that brings great value to both user and producer, with the hardware and software working together to provide content and functionality.[138]

This functionality allows users to wield cutting-edge information technology, but the functionality is culturally constructed. The iPhone is represented and its technology framed by cultural meanings that channel its open-ended capabilities towards particular uses. As William Boddy points out, the way technology is represented shapes the way people think about it, and how people think about it shapes the way it's used.[139] Thus, understanding Apple's promotional discourse is key to understanding the iPhone.

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[135] Such as OS X and iOS.

[136] Such as iPhoto, iWork, iBooks, iTunes, iMovie, Final Cut, Safari, Garageband, and Calendar.

[137] Such as Mail, iCloud, App Store, iTunes Store, FaceTime, and Messages.

[138] For a discussion of the role that Apple's corporate structure plays in the products and services it creates, see Chen, *Always On*, 88.

[139] Boddy, *New Media & Popular Imagination*, 53-4.

Advertising, Framing & Branding

In *The Codes of Advertising*, Sut Jhally makes a strong case for the influence of advertising messages on cultural meaning and social practice.[140] Within human societies, goods are invested with symbolic meaning, making them a fundamental part of social communication.[141] Within the information society, it is the manipulation of this symbolic code rather than the material production itself that is seen as integral to capitalist enterprise. Advertising works to embed particular meanings within material objects in the attempt to control consumption.[142]

Jhally is quick to point out that advertising does not impose meanings from above, but rather meaning is created with and through the audience as part of the techniques of advertising. This requires shared social knowledge and the active participation of viewers who are invited to participate in the construction of meaning.[143] Advertising draws from the shared vocabulary of social meanings that already exist and recombines them into new socially meaningful and culturally significant forms. This is why fragmented and atomized audiences are valuable to advertisers—different people respond to different coded of meanings, so the more characteristics an audience shares, the more meaningful an advertisement can be to a larger percentage of the audience.[144] While people are free

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[140] Sut Jhally, *The Codes of Advertising: Fetishism & The Political Economy of Meaning in The Consumer Society* (New York: Routledge, 1990).

[141] Jhally, *The Codes of Advertising*, 6-7.

[142] Jhally, *The Codes of Advertising*, 6-12.

[143] Jhally, *The Codes of Advertising*, 130-1; see also Judith Williamson, *Decoding Advertisements* (London: Marion Boyars, 1978).

[144] Jhally, *The Codes of Advertising*, 142-143.

to decode commercial messages however they like, advertisers work hard to frame that decoding, and any alternative reading must still navigate the commercial context.

Stephen Reese defines framing as the way a media text organizes, presents, and makes sense of the world.[145] It is based on the idea that the way an audience interprets a text or an object depends on how it is presented.[146] Media messages of all kinds construct a context that emphasizes certain things and omits others. Although the text itself does not determine the meaning that people make from it, people often rely on these frameworks to make sense of their social experience. Despite variations in how a text is interpreted, the way information is structured and selectively presented affects the meaning derived from it.[147]

Because of this, framing has the power to help organize the world cognitively and culturally. It can order cognitively by inviting the viewer to think about the world in a particular way, and it can order culturally by drawing on a larger world of cultural meanings and referencing social reality. A framework creates a coherent perspective by combining symbols, giving them relative emphasis, and attaching them to existing cultural ideas.[148]

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[145] Stephen Reese, "Framing Public Life: A Bridging Model for Media Research," in *Framing Public Life: Perspectives On Media & Our Understanding of The Social World*, edited by Stephen Reese, Oscar Gandy, Jr., & August Grant, 7-31 (New Jersey: Lawrence Erlbaum Associates, 2001), 7.

[146] Dietram Scheufele, "Framing As A Theory of Media Effects," *Journal of Communication* Vol. 49, No. 1, (1999): 103-122.

[147] Reese, "Framing Public Life," 7-9.

[148] Reese, "Framing Public Life," 12-13, 17.

The ability to produce frameworks and to embed symbolic meaning within material objects is a matter of social power. All media are a site of tension between conflicting interests, and what framing ultimately suggests is that social understanding is influenced, if not structured by, those social interests that have the resources to construct media messages and to access an audience.[149]

Contemporary advertising and the framing of persuasive messages are part of a broad strategic practice called branding. According to Liz Moor, branding is a diffuse set of practices that range from product and retail design, to logos, slogans and point-of-purchase marketing, which together form an integrated marketing and business strategy. Branding attempts to synthesize material products with abstract, conceptual ideas so as to influence the perceived relationships people have with goods and services. It attempts to imbue surfaces, spaces and objects with symbolic meaning in order to appeal to consumers on different levels.[150]

As Sarah Banet-Weiser points out, this emphasis on symbolic meaning in modern advertising makes brands an integral part of culture and personal identity. The way consumers interpret brand biographies allows them to form relationships with the brand in a way that fits within the personal narratives of their lives and plays an important role in identity construction. Fusing the material with the abstract, branding turns logos,

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[149] Reese, "Framing Public Life," 28.

[150] Liz Moor, *The Rise of Brands* (New York: Berg, 2007), 3-6, 145.

slogans and physical products into the themes, morals, values and feelings that people use to understand themselves and make sense of their world.[151]

Yet, as Moor makes clear, branding encompasses a broad set of techniques and strategies that can vary significantly among advertising campaigns. Different products, industries and goals make for different contexts that require wholly different means—from different technology to different representations, relationships and purposes.[152] Ana Andjelic also emphasizes the importance of context to branding. As digital networked technology has come to dominate all facets of contemporary life in the United States, Andjelic explains that branding strategies are intimately linked to specific media technology. Understanding brands in the contemporary context, therefore, requires understanding how they work in a digitally networked environment.[153] The Internet, she points out, is not merely another venue for the display of brand messages like radio and TV. The ability to interact, track and interpret consumer behavior offers a uniquely valuable opportunity for branding to evolve new practices and techniques, some of which I have already described. New designs and interfaces in a digitally networked environment offers new experiences, services, functionality, and the opportunity to further weave a brand into the everyday lives of consumers. It is this role of advertising in the symbolic, cognitive and cultural economy that makes iPhone advertisements important texts to consider.

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[151] Sarah Banet-Weiser, *Authentic: The Politics of Ambivalence in A Brand Culture* (New York: New York University Press, 2012), 4-5.

[152] Moor, *The Rise of Brands*, 7.

[153] Ana Andjelic, "Time to Rewrite The Brand Playbook for Digital," *Advertising Age*, March 4, 2010.

iPhone Advertisements

Apple's iPhone television commercials contain a rich collection of frameworks and messages that offer insight into the way Apple conceives of the technology and the user. The only other study to focus on these commercials is a 2012 paper by Taylor Moore that uses neoliberalism as a framework for interpreting the abilities and subject positions that Apple represents in its ads.[154] Neoliberalism is considered to be the defining political economic paradigm of the last 40 years. David Harvey defines neoliberalism as a social system predicated on the idea that "human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade."[155] As a system built on the principles of global free-market capitalism, neoliberalism is expressed not just in economic policies like deregulation and privatization, but politically with the relegation of the state to a supportive role, culturally with certain values and subject positions, and in the technology that is produced and deployed.[156]

Neoliberalism is a useful theoretical framework with which to approach Apple's advertisements, and Moore does a good job pointing out how Apple's advertising discourse instills in the iPhone and its user the kinds of values and abilities that neoliberal

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[154] Taylor Moore, "Selling The iPhone."

[155] David Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2005), 2.

[156] Robert McChesney, introduction to *Profit Over People: Neoliberalism & Global* Order by Noam Chomsky (New York: Seven Stories Press, 1999), 7-16.

subjects are expected to have. She finds three recurring themes in the television ads that infuse the device with ideas associated with neoliberal capitalism: efficiency, connection and access. These themes are prominent throughout Apple's campaign and the iPhone is presented as the perfect device for a neoliberal subject who values the ability to productively multitask, the ability to stay in constant contact with friends, family and work, and the ability to access all kinds of information.

Moore's study is limited, however, by the neoliberal framework that she employs. It's clear that she finds neoliberalism to be an extremely negative development, but this negativity infects her interpretation of the iPhone and renders her argument polemical, technologically determinist, and dystopian.[157] Her study ignores how the interplay between institutional forces like Apple and the agency of individual users together shapes the meanings and practices of the iPhone.[158]

My study certainly engages with Moore's major themes, and, like her, I look to Apple's advertising discourse as an important source of cultural meanings about the iPhone. But I try to avoid making value judgments about the role of technology in a user's life. The perspective of the producer is essential, but I'm more interested in how Apple perceives the role of this technology in society than in thinking about what it might

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[157] Nancy Baym describes the dystopian interpretation of technology as emphasizing the fear "of losing control, becoming dependent, and being unable to stop change...Technology may be seen as a way for elites to control the masses, as agents of doom, or as malevolent tricksters that promise positive change but in the end only make our lives more difficult." Baym, *Personal Connections*, 28.

[158] Nancy Baym argues for an approach to the study of technology that recognizes the complex environment in which it is created and adopted. She calls this the social shaping of technology, arguing that "if technological determinism locates cause with the technology, and social constructivism locates cause with people...social shaping emphasizes a middle ground. From this perspective, the consequences of technologies arise from a mix of "affordances"—the social capabilities technological qualities enable—and the unexpected and emergent ways that people make use of those affordances." Baym, *Personal Connections*, 44.

be doing to unwitting users. Where Moore uses psychological studies in an attempt to demonstrate how the smartphone makes its users docile, distracted, and dumb neoliberal subjects, I insist that Apple's discourse is a complex web of meanings that reflect the perceived interests of various social groups involved in its production and use. In addition, I compare Apple's television advertising discourse to an alternative set of discursive constructions that Apple presents to advertisers, thereby providing depth and context to Apple's definition of the iPhone. By elucidating the vision of smartphone technology that Apple offers its various customers, I feel I'm better able to appreciate the complex, contingent role that new media technology plays within society.

Conclusion

To summarize, I've described the way information technology evolved out of industrial technology as a set of tools to manage and control increasing complexity. In the process of controlling mass production and distribution, this information technology was applied to the control of consumption. Media and communications technology evolved within a commercial context as the tools of advertising and market research. Sophisticated surveillance, targeted ads, and personalized content are part of the latest tactics that find their must productive expression in the smartphone.

While the smartphone is an information and communications technology, it is also a cultural object whose symbolic value influences social practices. This symbolic value is heavily influenced by advertising discourse. The way advertisements manipulate symbolic codes and frame technology influence how that technology is understood and ultimately adopted and used.

These frameworks come from specific social actors with vested interests in the way people perceive and use the technology. Apple's role in the history of personal computers and information technology provided it with an advantageous position to enter the smartphone industry and redefine the market. As such, Apple's advertising discourse frames the iPhone in ways that influence the popular understanding of the technology and promote certain uses of the device.

Research Questions & Methodology

The literature assembled here provides the foundation for addressing this study's primary research questions: How does Apple's iPhone television commercials and iAd promotional material frame the iPhone and make it culturally meaningful? What does the disparity between the frameworks tell us about the still-evolving role of the smartphone in society?

In order to study the way Apple frames smartphone technology through advertising, I conduct a discourse analysis of iPhone television commercials and iAd promotional material and then compare them. This study takes as its methodological model an article by Kamal Munir and Nelson Phillips in which they explore Kodak's use of advertising discourse to influence the cultural understandings and social practices associated with photography. They found discourse analysis to be a useful strategy to explore the way socially constructed ideas are created and maintained through the discursive strategies of advertising.[159]

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[159] Kamal Munir & Nelson Phillips, "The Birth of The Kodak Moment: Institutional Entrepreneurship & The Adoption of New Technologies," *Organization Studies*, Vol. 26, No. 11 (2005), 1666.

Munir and Phillips define discourse as "an interrelated set of texts that brings an object into being."[160] Discourse analysis is then the study of certain texts in order to explore the relationship between discourses, agents, and the production of social reality.[161] For the purposes of this study I'm interested in the way Apple's advertising discourse constitutes a material object—the iPhone. Following Munir and Phillips, I look for the ways Apple depicts the iPhone within existing social practices and to which activities the device is made integral. I also look for specific subject positions and roles, new concepts, and comparisons with existing technology.[162]

In their study of the role of advertising in the appropriation of mobile phone technology, Juan Aguado and Inmaculada Martinez insist that adopting technology is part of a consumption process that includes the role of advertising discourse in shaping meanings and practices. They recognize that consumption is a negotiated process between the institutional discourses of advertising and the non-institutional, personal discourses of individuals. Advertisements are often aimed at bridging these institutional and non-institutional discourses through the presentation of recognizable cultural experiences.[163]

According to Aguado and Martinez, these cultural experiences are mediated by the way advertising frames certain experiences and by the way these frameworks are

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[160] Munir & Phillips, "The Birth of The Kodak Moment," 1667.

[161] Teun Van Dijk, *Discourse As Structure & Process* (London: Sage, 1997), 1-34.

[162] Munir & Phillips, "The Birth of The Kodak Moment," 1673.

[163] Aguado & Martinez, "The Construction of The Mobile Experience," 1-3.

appropriated into lived experience. They found that cultural experiences are best represented through two types of advertisements: narrative and illustrative ads. Narrative ads demonstrate the ability for social interaction through some kind of biographic framework. They demonstrate the way a product can be incorporated into the lifestyle, rituals, and social environment of the user. Illustrative ads focus on interaction with the device, emphasizing design, user-friendliness, and versatility.[164] Together, these two types of advertisements describe the iPhone television commercials.

Aguado & Martinez also identified four discursive strategies that act as a useful guide for analyzing iPhone ads: aesthetic, biographic, functional, and metaphoric. Aesthetic assimilation presents the smartphone as an extension of one's body and identity, often through analogies to familiar personal objects such as the telephone. Biographic assimilation presents the smartphone within familiar social experiences such as romantic messaging or location sharing. Functional assimilation provides instruction in how to use the device. And metaphoric assimilation presents visual metaphors to represent the experience derived from their consumption. These four frames act as a guide for my analysis because Aguado and Martinez found that people use this kind of advertising discourse to inform their appropriation of technology.[165]

It is with these previous studies in mind that I look at the iPhone television advertising campaign from 2007 to 2011. I include multiple generations of iPhone technology because as new features and functionality were introduced, there was an interesting evolution in the way the advertising discourse defined and framed the iPhone.

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[164] Aguado & Martinez, "The Construction of The Mobile Experience," 3-6.

[165] Aguado & Martinez, "The Construction of The Mobile Experience," 6-10.

I focus on only the first four years of iPhone advertisements because the form these advertisements took reveal the concerted efforts by Apple to frame the iPhone and associate a particular identity with the device. These early years erected conceptual frameworks that sought to influence the domestication a new media technology, and these frameworks continue to shape the way people understand the iPhone.[166]

I chose iPhone television commercials over print ads, billboards and other forms of advertising because of the rich detail that video offers. Unlike static print ads, video commercials offer the opportunity for demonstration and elaboration, providing experiential frameworks and discursive strategies that can more readily influence the experiences of users.[167] I also look at the keynote addresses where each new iPhone model is revealed in detail to the public for the first time. These hyped promotional events make a spectacle out of unveiling the next generation of iPhone technology. In the process, these keynote addresses provide the original conceptual framework that is then elaborated on in the television commercials. Keynotes are much more in-depth in the way the technology is described, and they offer a rich depository of meanings and overt framings that compliment the short, slick television advertisements. These keynote addresses will also span the period between 2007 and 2011.

Since Apple's marketing campaigns are culturally significant, there are many internet users who have captured nearly every Apple television commercial ever made. YouTube in particular offers a convenient collection of Apple's entire video ad history.

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[166] Domestication is the process whereby "new technologies and services…are brought (or not) under control by and on behalf of domestic users." It is "quite literally a taming of the wild and cultivation of the tame." Silverstone & Haddon, "Design & Domestication," 60.

[167] Aguado & Martinez, "The Construction of The Mobile Experience," 3.

The EveryAppleAd channel on YouTube maintains what it calls "Apple's largest TV ad archive," dating back to the introduction of the Macintosh computer in 1984. This repository offers a comprehensive collection of every iPhone television commercial and will be my resource for recovering the ads. The keynote addresses have also been uploaded by a number of users to YouTube and are easily accessible for analysis.

In order to study the discursive strategies and framing employed to promote the iAd service, I look at the series of webpages that compose advertising.apple.com. While Apple has not produced any television commercials for iAd the way they have for their consumer-oriented products, the website's promotional material uses colorful pictures and evocative text in order to sell the service to app developers and advertisers. I thoroughly explored this part of Apple's website and my study refers often to these pages.

Looking at the different ways Apple frames the iPhone provides insight into how consumers are supposed to understand the technology, and how the act of consuming these devices is culturally constructed. By comparing the framing directed at consumers to the way Apple promotes its iAd service to advertisers, I hope to evoke a nuanced understanding of the varied meanings of the device and connect it to the larger structural forces within society.

Chapter 2: iPhone Advertising Discourse

Now that I have provided a history of information technology and a broader context for interpreting the iPhone, I turn to the television advertisements that presented Apple's vision of the smartphone to the world. The main argument in this chapter is that early iPhone advertisements made the technology socially and culturally intelligible to consumers. Through certain discursive techniques, such as those described by Munir and Phillips, Apple was able to produce and circulate ideas that culturally constructed the device.

One of those techniques was the modification of existing concepts. As Munir and Phillips explain in their article, Kodak was able to popularize a new set of values and measures of quality for evaluating cameras that privileged its new product.[168] Apple followed a similar path with Steve Jobs' original 2007 iPhone keynote address. In comparing the new iPhone with existing smartphones, he focused on the older models' small screen size and the ways in which they were limited by permanent plastic keyboards. His criticism of this existing design articulated a new set of values for evaluating smartphone technology. The full screen and virtual keyboard of the new iPhone were framed as functionally superior to its predecessors, able to appear and

[168] Munir & Phillips, "The Birth of The Kodak Moment," 1680.

disappear depending on the context, opening up the full-length screen to display the photos, videos, music, and web browsing on the device.[169]

Jobs was reluctant to use consumer focus groups when designing new products because he thought that "people don't know what they want until you show it to them."[170] Indeed, much of Apple's success in defining product categories like desktop computing, MP3 players and smartphones has a lot to do with the way in which the company presents and frames these products. The highly choreographed launches of new devices never presents technology that isn't already available to consumers in some form or another. Rather, the power of Apple's appeal is in the design aesthetic, and in the way it is discursively framed.[171]

The original iPhone television ad campaigns, beginning in 2007, were not the typical abstract emotional appeals characteristic of modern advertising, nor were they of the same character as any of Apple's previous ad campaigns.[172] The early iPhone television advertising instead followed a demonstrative "how-to" format. The ads showed how to use the device for certain things, which was a useful way to articulate both practical and symbolic meaning.

In Apple's original iPhone ad campaigns, the viewer is presented with a first-person perspective of the iPhone: a left hand holding the device up to the screen and a

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[169] "MacWorld 2007 - iPhone Introduction," YouTube Video, 1:17:26, Apple keynote address, posted by AppleKeynotes, July 10, 2013.

[170] Andy Reinhardt, "Steve Jobs On Apple's Resurgence," *Business Week*, May 12, 1998.

[171] Burgess, "The iPhone Moment," 30-4.

[172] For an analysis of the emotional appeal in modern advertising see Inger Stole, "Advertising," in *Culture Works: The Political Economy of Culture*, ed. Richard Maxwell (Minneapolis: University of Minnesota Press, 2001), 83-106.

right hand operating it as if the viewer is the user. Behind the iPhone is an out-of-focus, white background that draws all attention to the device. A narrator then presents hypothetical situations such as:

"You know when you don't know what song is playing and it's driving you crazy?"[173]

"Say you own a small business and you need to ring up a customer's order."[174]

"Say you're out shopping for a car."[175]

"Say you're on a call and your friend wants to know what time's the movie?"[176]

Each advertisement then demonstrated how the iPhone was a useful solution to these and other problems. The kinds of problems, their specific solutions, and the advertised capabilities in general assumed a certain kind of user. In the ads, the hands that hold and operate the iPhone are white and male, as is the narrator, and the perspective through which problems are perceived and solved. The kinds of social identities on display in these ads were, like previous Apple ad campaigns, centered on a white male, often of a vaguely upper-middle-class status.[177] But as Apple's discourse constructed a particular user, it also worked to domesticate the emerging technology. The process of

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[173] "Shazam," YouTube video, 0:30, Apple television advertisement aired November 6, 2008, posted by EveryAppleAd, October 18, 2012.

[174] "Office," YouTube video, 0:30, Apple television advertisement aired April 2, 2009, posted by EveryAppleAd, October 18, 2012.

[175] "Cars," YouTube video, 0:30, Apple television advertisement aired February 1, 2008, posted by EveryAppleAd, October 18, 2012.

[176] "Where's The Movie," YouTube video, 0:31, Apple television advertisement aired November 20, 2009, posted by EveryAppleAd, October 18, 2012.

[177] For an analysis of Apple's previous advertising campaigns, see Burgess, "The iPhone Moment," 34-40.

defining the technology and the user is simultaneous and interwoven, but is more easily described in parallel. So before I examine how Apple defined a particular kind of user, I will explore how it defined and discursively domesticated a new and unfamiliar media technology.

Defining the Device: From Telephone to Platform

The original iPhone was addressed to a global audience at a time when few people yet owned a smartphone and few even knew what that was. Through its ads, Apple had to create a framework that would make the iPhone meaningful and desirable to a wide audience. The original iPhone teaser trailer, "Hello," broadcast during the telecast of the 2007 Academy Awards, rooted the iPhone in the cultural history of the telephone. Beginning with a shot of an old rotary phone ringing on a table, the ad cuts between a series of brief clips from iconic movies and television shows in which characters are all answering a phone with the customary salutation, "Hello." It ends with a shot of the iPhone, stitching it into the lineage of telephone technology, as the apotheosis of its technical and cultural history. No features are highlighted, only its association with older media and established cultural practice.[178]

Drawing on the already familiar helps make sense of new media.[179] Of course there is much about the iPhone that does evolve out of the telephone: its physical shape is

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[178] "Hello," YouTube video, 0:30, Apple television advertisement aired March 2, 2007, posted by EveryAppleAd, October 18, 2012.

[179] "Older media technologies, especially those like the telegraph, telephone, and wireless, which inspired widespread public and scientific speculation and anxiety, function as powerful templates through which subsequent media forms are understood and promoted." Boddy, *New Media & Popular Imagination*, 16.

meant to stretch from ear to mouth, its cellular antenna connects it to telephone networks, and its purchase is nearly always accompanied by a contract for service from a large telecommunications company. But when Jobs introduced the iPhone during the 2007 MacWorld keynote address, the concept of the phone figured prominently in the way he explained the new device. "Today we're introducing three revolutionary products," he said. "The first is a widescreen iPod with touch controls. The second is a revolutionary mobile phone. The third is a breakthrough internet communications device."[180] These three products were, of course, one device—the iPhone. Jobs used these preexisting technologies—iPod, cell phone, and web browser—to explain the iPhone. But he did little to articulate the synergy that happens when these technologies converge.

The television ads that followed were better able to explain some of the possibilities created by this fusion, but almost always done in relation to the telephonic capability. Whether each ad demonstrated using the internet, watching movies, or listening to music, they all ended with a phone call. The iPhone was often framed as a phone *plus* an internet connection, or as a phone that *also* plays music and video. As one ad states, "Instead of carrying an iPod and a phone, why not carry an iPod *in* your phone."[181] Or, "You'll be surprised by some of the stuff you find on YouTube, but maybe the biggest surprise is finding YouTube on your phone."[182] These ads offered a simplistic framework that explained to consumers what convergence could do to their cell phone.

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[180] "MacWorld 2007 - iPhone Introduction."

[181] "Instead," YouTube video, 0:30, Apple television advertisement aired August 9, 2007, posted by EveryAppleAd, October 18, 2012.

[182] "Surprised," YouTube video, 0:30, Apple television advertisement aired June 1, 2007, posted by EveryAppleAd, October 18, 2012.

Many people already had a cellphone, an iPod, or an internet connection, and these concepts made the iPhone familiar.

The first two generations of iPhone ads, stretching from 2007 to 2009, defined convergence in familiar terms, but also elaborated on unfamiliar possibilities. Most commercials of this vintage highlighted new forms of convenience and novelty, such as the 2007 ad, "Calamari." This ad demonstrates the iPhone's synergistic possibilities by creating a scenario in which the user finds reason to move from the iPod to the web browser to the cell phone. In the ad, watching a sea monster movie on the iPhone inspires an internet search for seafood restaurants, which leads the user to make a telephone call to order take-out food.[183] This early ad foreshadowed the evolution of the iPhone from a telephone to an open-ended platform.

As each successive version of the iPhone added new features that allowed convergence to more effectively interoperate (multitasking, cut and paste, GPS location, video capture, etc.), the demonstrations in the advertisements became more sophisticated. The ads moved away from the telephone function as the App Store opened up the device to outside developers. By the time the third and fourth generations of iPhones were released in 2009 and 2010, little mention was made of the telephone function; it had become one feature among many.

The introduction of the App Store with the release of the iPhone 3G in 2008 moved the advertising discourse toward a focus on the interpretive flexibility of the device, prompting the rhetorically indicative question, "What do you want your iPhone to

[183] "Calamari," YouTube video, 0:30, Apple television advertisement aired June 4, 2007, posted by EveryAppleAd, October 18, 2012.

be today?"[184] Many of the ads still ended with a phone call, but they were educational videos that demonstrated how to expand the capabilities of the iPhone and take advantage of the new ecosystem of apps. Some ads even took consumers through a step-by-step process, explaining, "This is how you enter the App Store. And this is how you browse over a thousand new apps. And this is how you download one right to your phone."[185]

The App Store meant the iPhone could be highly customized. To illustrate this, the ads proposed specific problems and solutions that showed the iPhone helping people watch sports,[186] practice medicine,[187] travel,[188] play games,[189] study,[190] ski,[191] hike,[192] shop,[193] even birdwatch.[194] In the App Store, "there's an app for just about anything."[195]

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[184] "Game Changer," YouTube video, 0:30, Apple television advertisement aired October 8, 2008, posted by EveryAppleAd, October 18, 2012.

[185] "Cromag," YouTube video, 0:30, Apple television advertisement aired August 29, 2008, posted by EveryAppleAd, October 18, 2012; "Vicinity," YouTube video, 0:30, Apple television advertisement aired August 29, 2008, posted by EveryAppleAd, October 18, 2012; "Lonely Planet," YouTube video, 0:30, Apple television advertisement aired August 20, 2008, posted by EveryAppleAd, October 18, 2012.

[186] "Game Changer," 2008.

[187] "Read," YouTube video, 0:30, Apple television advertisement aired January 26, 2009, posted by EveryAppleAd, October 18, 2012.

[188] "Lonely Planet," 2008.

[189] "Cromag," 2008.

[190] "Student," YouTube video, 0:30, Apple television advertisement aired April 2, 2009, posted by EveryAppleAd, October 18, 2012.

[191] "Check," YouTube video, 0:30, Apple television advertisement aired January 26, 2009, posted by EveryAppleAd, October 18, 2012.

[192] "Itchy," YouTube video, 0:30, Apple television advertisement aired April 2, 2009, posted by EveryAppleAd, October 18, 2012.

[193] "Shopper," YouTube video, 0:30, Apple television advertisement aired April 12, 2010, posted by EveryAppleAd, November 4, 2012.

According to Munir and Phillips, this act of embedding new technology in existing practices provides a sense of legitimacy and naturalness.[196] Because of the nature of convergence, Apple had access to an enormously diverse set of existing technologies (phone, camera, iPod, web browser, email, keyboard, operating system, voicemail, touch screen), and practices (upload, download, travel, friendship, family, photography, gaming, work) from which to draw and into which it could insert the iPhone. Capable of so many things, the iPhone was essentially a blank slate upon which Apple's advertising could project whatever it wanted. The advertisements highlighted certain features and functions of the technology and demonstrated their usefulness in certain situations. They connected the GPS, internet and telephone capabilities to specific experiences, such as finding and purchasing new music,[197] getting directions to the nearest coffee shop,[198] settling a dispute,[199] staying in touch with friends[200] and family,[201] or being more

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[194] "Nature Lovers," YouTube video, 0:30, Apple television advertisement aired September 18, 2009, posted by EveryAppleAd, October 18, 2012.

[195] "Check," 2009; "Office," 2009; "Read," 2009; "Student," 2009; "Fix," YouTube video, 0:30, Apple television advertisement aired March 11, 2009, posted by EveryAppleAd, October 18, 2012.

[196] Munir & Phillips, "The Birth of The Kodak Moment," 1672-3.

[197] "Shazam," 2008.

[198] "Vicinity," 2008.

[199] "Bet," YouTube video, 0:30, Apple television advertisement aired February 6, 2008, posted by EveryAppleAd, October 18, 2012.

[200] "Loopt," YouTube video, 0:30, Apple television advertisement aired November 4, 2008, posted by EveryAppleAd, October 18, 2012.

[201] "Meet Her," YouTube video, 0:30, Apple television advertisement aired July 12, 2010, posted by EveryAppleAd, October 23, 2012; "Smile," YouTube video, 0:30, Apple television advertisement aired July 12, 2010, posted by EveryAppleAd, October 23, 2012.

productive.[202] The advertisements attempted to show that the iPhone could be anything to anyone. But the range of uses that were demonstrated met a certain set of needs and wants that inferred particular lifestyles and relationships. The ads showed *how* someone might use the iPhone, but to do this they had to show *who* the user might be.

Defining The User: Lifestyles & Relationships

The first-generation iPhone advertising campaign also featured a series of user testimonials. The visual style of these testimonials was not the first-person view of an iPhone like the rest of the campaign, but featured a medium shot of each subject standing in front of a black screen. The style of dress and manner of speaking of each person was distinct and evocative of a particular social identity. In "Delay," Brice is dressed as an airplane pilot, well spoken and analytical. The iPhone helps keep him informed about changing weather patterns that affect his ability to fly.[203] In "My Show," Ken is a stylish businessman, casual, confident and effusive. He claims the multiple functions make him a better businessman and a better artist.[204] In "One Thing," Stefano is in a t-shirt, muscular, his speech thick with a Jersey accent. He finds convergence means not having to juggle a collection of gadgets.[205]

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[202] "Office," 2009; "On Hold," YouTube video, 0:30, Apple television advertisement aired February 19, 2010, posted by EveryAppleAd, October 23, 2012.

[203] "Delay," YouTube video, 0:30, Apple television advertisement aired November 1, 2007, posted by EveryAppleAd, October 18, 2012.

[204] "My Show," YouTube video, 0:30, Apple television advertisement aired November 1, 2007, posted by EveryAppleAd, October 18, 2012.

[205] "One Thing," YouTube video, 0:30, Apple television advertisement aired October 7, 2007, posted by EveryAppleAd, October 18, 2012.

The testimonials used a confessional format to explain how "real" people had incorporated the technology into their lives in interesting ways. Each one of these testimonials ends with a longer, zoomed-out shot, revealing the black screen behind each person to be a photographer's tarp set up in a public space. As the character steps off to the side, the black tarp appears to be a confessional space waiting for the next person to drop by. The ad ends here, but the viewer is left with the sense that the testimony just witnessed is but one tale among many.

The user's identity is fundamental to Apple's advertising discourse because it was the personal interests, needs, and desires of a particular user that made what the iPhone could do appear meaningful and useful. The testimonials are noteworthy because they contained an ethnic, racial, and gender diversity that was not reflected in the larger collection of first-person ads. Indeed, overall there were a moderately diverse range of identities that the iPhone television ads addressed with its particular proposed uses, including college kids,[206] dog people,[207] athletes,[208] travelers,[209] adventurers,[210]

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[206] "Student," 2009.

[207] "Dog Lover," YouTube video, 0:30, Apple television advertisement aired April 15, 2010, posted by EveryAppleAd, November 4, 2012.

[208] "Check," 2009.

[209] "The Great Thing," YouTube video, 0:30, Apple television advertisement aired Febrary 5, 2008, posted by EveryAppleAd, October 18, 2012; "Travel," YouTube video, 0:30, Apple television advertisement aired July 31, 2009, posted by EveryAppleAd, October 18, 2012; "Backpacker," YouTube video, 0:30, Apple television advertisement aired April 15, 2010, posted by EveryAppleAd, November 4, 2012.

[210] "Itchy," 2009; "Gift," YouTube video, 0:30, Apple television advertisement aired November 17, 2009, posted by EveryAppleAd, November 4, 2012.

gamers,[211] and workers.[212] But while these identities are common to a diverse range of social subjectivities, the perspective constructed in Apple's advertisements is from the privileged social position of an adult white male. When the ads demonstrated the way the iPhone enhanced the experience of family, friends, work, travel and shopping, these familiar categories of modern life only obliquely addressed a variety of people; the white male hands, narration, and proposed dilemmas found in the majority of ads betrayed the socially privileged subject position whose experiences the iPhone was meant to enhance, and whose problems it was meant to solve. Very few of Apple's ads presented women or people of color as the user whose specific needs were solved by the iPhone's capabilities.

In the 2010 ad "Family Man," for example, the voiceover describes how an entire family benefits from the iPhone. Grandma gets pictures and video of the grandkids, the wife downloads dinner recipes, and the kids can watch videos on long car trips. "We'd be lost without my phone," the narrator suggests. With the family represented in such normative roles, the iPhone is framed as a miraculous way to solve family problems and hold a nuclear family together. But it does this from the man's perspective. It is his device that placates his mother's interest in his children, that assists his wife with the domestic chores, and that entertains and pacifies his children.[213]

The role of the iPhone in family life is a recurrent theme, and one of the only contexts in which the first-person format features a woman's hands and voiceover. A

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[211] "Cromag," 2008.

[212] "Commute," YouTube video, 0:31, Apple television advertisement aired April 2, 2010, posted by EveryAppleAd, November 4, 2012.

[213] "Family Travel," YouTube video, 0:30, Apple television advertisement aired February 19, 2010, posted by EveryAppleAd, October 18, 2012.

mother's perspective is featured in the 2010 ad "Family Travel," which demonstrates how the iPhone allows her to check-in on the way to the airport, find snacks for the kids near the departure gate, have their favorite movies ready to go, and even remotely turn the lights out in the house. "It's unbelievable how much better family trips have gotten," she says. But this ad seems to reinforce the female gender role as minder of children and as the family secretary. The iPhone is framed as a labor-saving device for the woman's domestic labor, empowering her to more efficiently and effectively manage her children.[214]

This female perspective was not in contrast to the male perspective, but a compliment to it. These ads simultaneously addressed white patriarchs who might buy their wife an iPhone the same way they might buy their wives washing machines and dishwashers to technologically assist them in the completion of domestic chores. Demonstrating the way women can excel at their particular domestic gender role with the iPhone could be interpreted as an attempt to access a large, lucrative market of female users. But the limited scenarios in which women have any kind of agency finds them in stereotypical roles.

Discursively constructing new roles for women is another tactic described by Munir and Phillips.[215] They explain how Kodak sought to access an untapped market of female consumers by representing women as the family documentarian. In Apple's 2010 ad "First Steps," a mother captures and shares a video of her child's first steps. She explains how she "sent it to everyone right away, and then we all jumped on the phone at

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[214] "Family Travel," 2010.

[215] Munir & Phillips, "The Birth of The Kodak Moment," 1674-7.

once to talk about it."[216] In the era of social media, the iPhone-empowered mother can be both family documentarian as well as publicist, capturing precious moments and managing the family brand. As Roger Silverstone and Leslie Haddon point out, new technology is often defined "in accordance with the dominant and insistently gendered character of domestic life."[217] In attempting to make the iPhone familiar and accessible, Apple's advertisements construct a role for the iPhone that situates it within heteronormative relationships.

It's important to remember that the cultural conditions of Silicon Valley are an important context for the iPhone's creation. As Alice Marwick has shown, the individuals who work there have a certain kind of social experience that affects what they produce. The technology they create reflects the values, desires, needs, and interests specific to their experience.[218] Their products might find wide use among diverse groups of people outside of Silicon Valley, expressing the common themes of the human experience, but the technology itself and the discourse that constructs it originate from and for a fairly specific social position, with a fairly narrow range of problems that need solving. Apple is slightly more demographically diverse than other technology companies, but it is still dominated by white men.[219]

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[216] "First Steps," YouTube video, 0:30, Apple television advertisement aired February 19, 2010, posted by EveryAppleAd, October 18, 2012.

[217] Silverstone & Haddon, "Design & Domestication," 60.

[218] Alice Marwick, *Status Update: Celebrity, Publicity & Branding in The Social Media Age* (New Haven: Yale, 2013).

[219] About 55% of Apple's American workforce is male. Only 30% of its employees worldwide are female, and less than 20% of its American workforce are Black or Hispanic. Brian Chen, "Apple's Diversity Mirrors Other Tech Companies'," The *New York Times*, August 12, 2014.

Some ads seem to specifically hail the wealthy, white-male technology geeks of Silicon Valley by wondering how anyone could have possibly survived all these years without the convenience of email, stock updates, and internet access in their pocket.[220] But all of the ads inject this technology into the rhythms of urban, on-the-go, professional lifestyles that seem at home in California's Silicon Valley. Gadgets and expensive technology are usually made by and for the geeky men that populate this area to solve the issues and enhance the experiences particular to their social subject positions.[221]

In addition to framing family life from a certain perspective, the management of social relationships was another recurrent theme that evoked a particular social experience. The iPhone was repeatedly demonstrated facilitating the sometimes complicated, other times awkward, but always tedious acts of maintaining social relationships. The 2009 ad "Multi-people," for instance, demonstrates how the multitasking functions of the iPhone allows users to simultaneously communicate with friends and family while accessing information pertinent to the conversation. The iPhone allows people to refer to an email under discussion, instantly change a reservation if something comes up, or even buy a last-minute anniversary gift.[222] The multitasking functions are framed as this ability to efficiently juggle the challenges and obligations of

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[220] "All These Years," YouTube video, 0:30, Apple television advertisement aired August 9, 2007, posted by EveryAppleAd, October 18, 2012.

[221] "The choices that designers and developers make as they develop technology are seen as dependent on their social contexts." Baym, *Personal Connections in The Digital Age*, 39.

[222] "Multi-People," YouTube video, 0:30, Apple television advertisement aired November 20, 2009, posted by EveryAppleAd, October 18, 2012.

social relationships.[223] Consumers are invited to participate in the sophisticated control offered by democratized access to information technology. In the society that Apple presents control isn't limited to powerful institutions but can be purchased and wielded. Social life, then, is a problem to be managed and solved by the time-saving abilities of the iPhone.

But the ability to coordinate with friends in the ads typically required that they had adopted the iPhone as well. As an ad from 2008 noted, "Staying in touch with friends can be tough. But if you have Loopt from the App Store, you know what they're up to, where they are, and if they want to grab lunch."[224] For these features to work, the user's friends were also required to use the app. The capabilities of the device were thus enhanced when other people within the user's social network used the same device. This shared usage allowed other social actions like coordinating a night at the movies,[225] sharing photos and contacts,[226] or playing games together,[227] to be enhanced. Families and groups of friends were incentivized to coordinate their purchase of the iPhone, which assumes a certain socioeconomic milieu.

Many of the demonstrated social functions also presuppose an urban environment well-integrated with networked digital technology. Actions like locating restaurants and

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[223] "Where's The Movie," 2009; "On Hold," 2010.

[224] "Loopt," 2008.

[225] "Where's The Movie," 2009.

[226] "Backpacker," 2010; "First Steps," 2010; "Share," YouTube video, 0:30, Apple television advertisement aired August 17, 2009, posted by EveryAppleAd, October 18, 2012; "Skateboard," YouTube video, 0:30, Apple television advertisement aired June 22, 2009, posted by EveryAppleAd, October 23, 2012.

[227] "Share," 2009.

making dinner reservations,[228] finding a cab and calculating fares,[229] and buying movie tickets[230] are enhanced when businesses, locations, and institutions are also online. Information technology is about management and control and Apple democratizes this control by creating user-friendly software and devices that let consumers harness this power without requiring them to learn the necessary technical skills. The extent to which the elements of the world have been digitized and networked is the extent to which the iPhone user has control over their world. This privileges the urban spaces of large cities where wealth is concentrated, where digital network infrastructure is most advanced, and where businesses have an incentive to reach customers through this technology. The functionality and usefulness of many of the iPhone's features therefore depends on who else and what else has been digitally networked, creating another social pressure that spurs local businesses towards engaging customers through the iPhone.

If the iPhone's abilities to help manage children and facilitate social relationships made these tasks easier by making them faster and more efficient, the same was true with work. In the 2008 ad "Work Friendly," the iPhone is framed as a time-saving device because it "instantly updates your work calendar, pushes your work email, and automatically keeps up with your work contacts."[231] No matter where the user is, he or she is always ready and able to work. As Taylor Moore points out in her analysis of

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[228] "Urban Spoon," YouTube video, 0:30, Apple television advertisement aired October 8, 2008, posted by EveryAppleAd, October 18, 2012.

[229] "Fix," YouTube video, 0:30, Apple television advertisement aired March 11, 2009, posted by EveryAppleAd, October 18, 2012.

[230] "Where's The Movie," 2009.

[231] "Work Friendly," YouTube video, 0:30, Apple television advertisement aired July 21, 2008, posted by EveryAppleAd, October 18, 2012.

iPhone ads, this emphasis on speed and efficiency is essential to the neoliberal subject.[232] Apple's advertising discourse constructed—and mirrored—the diffusion of economic logic into all aspects of life. Work time and leisure time were, as Andrejevic says, de-differentiated.[233]

This was also illustrated in the 2010 ad "Commute," which demonstrates a user accomplishing work tasks *before* arriving at his job.[234] The ability to work from anywhere is indicative of a digital enclosure which enables institutional boundaries to be flexible and for disciplined, productive behavior to take place regardless of physical location. The iPhone was framed as part of this trend in which employees did not need to be within the boundaries of the office in order to perform profit-making labor because they were always virtually present. Here Apple addressed not only overachieving workaholics, but corporations looking to enhance their workforce with a company phone that could tether their employees and keep them on-call and ever-productive.

This ability to move through space while remaining connected to information networks is one of the core features of convergence and a key function touted by Apple's advertisements. The 2010 ad "Backpacker," for instance, demonstrates how the iPhone's internet access enables an American backpacking through Spain to coordinate accommodations, share photos, and help translate foreign languages. "All I really needed

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[232] Moore, "Selling The iPhone."

[233] Andrejevic, *iSpy*, 107-108.

[234] "Commute," 2010.

was my iPhone and my passport," he claims. So the iPhone's connectivity could enhance leisure as much as it could labor.[235]

In the 2007 ad, "All These Parts," the iPhone allows travelers to check the weather at their destination so they know what to pack, check the traffic to the airport so they know when to leave, rent an ocean-view room so they have a nice place to relax, and to check their stock portfolio to make sure they can afford the trip.[236] While Apple presents the iPhone as a great tool for coordinating and planning a vacation, its also describes a very elite experience.

Similarly, the 2008 ad called "The Great Thing" demonstrates how useful the iPhone is on a ski trip to Aspen, Colorado.[237] A user can load the trail map, find a great place to eat, even change their return flight if they decide they're "just not ready to go home" yet. Aspen is, of course, one of the world's premier ski resorts and few are able to afford to ski and dine there, much less have the financial flexibility to extend their stay. The Apple brand had always cultivated this elite, exclusive connotation with its distinguished style and premium price, and Apple reinforced this identity consistently throughout the iPhone advertising campaign, hailing the user as financially successful and with distinguished cultural tastes.

This focus on elite, upper-class lifestyles is a way to build the cultural status of the iPhone and increase its desirability by associating lifestyles of the rich and famous with the device. Although the average person many not have access to these social

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[235] "Backpacker," 2010.

[236] "All These Parts," YouTube video, 0:30, Apple television advertisement aired August 9, 2007, posted by EveryAppleAd, October 18, 2012.

[237] "The Great Thing" 2008.

experiences, purchasing the iPhone grants access to cultural signs of social status that act as a consumable substitute.

The elite status of the iPhone presented in the ads also signals to advertisers that Apple's customers are a desirable demographic. Statistically, iPhone users have the highest education and wealth of all smartphone users,[238] and spend more money and participate in mobile commerce more often than users of other devices.[239] So the elite situations and examples that Apple uses speaks to its ideal user while cultivating a brand identity that simultaneously appeals to the interests of potential advertisers. The iPhone appears, more than anything else in the television ads, as a device that promotes consumption in many of its forms by making it faster, easier, and more location-independent than ever before.

It is this overarching theme of consumption that ties all of Apple's iPhone ads together. No matter the proposed situation, the underlying context is always one of consumption. The how-to campaign was essentially a how-to-consume tutorial. The 2007 "Calamari" ad mentioned earlier, for example, is a collection of consumptive moments, from the copyrighted movie purchased from the iTunes store, to the use of data to search for a restaurant, to the call across AT&T's telephone network, and to the ordering of food from a nearby restaurant.[240]

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[238] Pew Research Internet Project, "Smartphone Ownership 2013," by Aaron Smith, June 5, 2013.

[239] MarketingCharts, "Smartphone Owners Increase Handset-Based Spending," January 6, 2010; See also MarketingCharts, "Mobile Commerce App Usage Higher Among iPhone Than Android Users," April 16, 2013.

[240] "Calamari," 2007.

More overtly, the 2010 ad "Shopper" shows the iPhone helping a user research products, compare prices, and get advice from friends before making a purchase. Apple uses the anecdote of a husband looking for a thoughtful gift for his wife to demonstrate how to translate a gift idea into a smart purchase. He wants to get her an espresso machine but doesn't know which color or style to purchase, so he browses consumer reviews on the Web and consults his sister-in-law via text message before deciding on the right model. The research and consulting he does on the iPhone leads him to a nearby store that has the best price. As he states, "I'm a much smarter and faster shopper with my iPhone."[241] Here, smartphone technology is demonstrated bolstering shopping intelligence while the intuitive interface and handy apps make the process simple and fast, sure to get consumers the best price from the nearest store.

In addition, the 2008 ad "Cars" demonstrates how valuable the iPhone can be when car shopping,[242] the 2009 ad "Student" shows how handy the iPhone can be for buying textbooks and renting apartments,[243] and the 2010 ad "Dog Lover" details all the ways the iPhone can help acquire dog-owning essentials.[244] The idea of the iPhone as a device for consumption is repeated over and over in Apple's marketing campaigns, from buying music,[245] to buying food,[246] to buying an espresso maker.[247] The language and

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[241] "Shopper," 2010.

[242] "Cars," 2008.

[243] "Student," 2009.

[244] "Dog Lover," 2010.

[245] "Music Store," YouTube video, 0:30, Apple television advertisement aired March 6, 2008, posted by EveryAppleAd, October 18, 2012.

particular demonstrations Apple uses to define the iPhone frame it as an essential tool for the consumer lifestyle, necessary to get the best deals, find the closest store, make the smartest decisions, and do this all quickly and efficiently.

Apple's TV ads also demonstrate new ways that a user's environment can generate shopping opportunities. In the 2010 ad "Concert," a user relies on the Shazam app to identify a song playing in a bar. The app then links the user to the iTunes Store to purchase the song and informs the user of an upcoming concert by that band.[248] The iPhone transforms a serendipitous musical experience into consumptive opportunities. Shazam is highlighted because it takes people's curiosity about a song and connects that interest to the iTunes music store with the intention of driving a purchase. Silverstone & Haddon would describe this sequence as a design aesthetic that constructs the user in ways that serve Apple's interests.[249] Here the hardware and the software of the iPhone work with advertising to frame the user's relationship to the technology in a way that funnels the user towards a financial transaction. The demonstrated possibilities translate curiosity and interest into a sale.

Because of this overarching theme of consumption, the iPhone appears as a collection of markets—as a market internal to the device (iTunes, App Store), as a way to shop online, and as a way to drive users to restaurants, coffee shops, vacation spots, and

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[246] "Calamari," 2007. "Urban Spoon," 2008. "Vicinity," 2008.

[247] "Shopper," 2010.

[248] "Concert," YouTube video, 0:30, Apple television advertisement aired April 2, 2010, posted by EveryAppleAd, November 4, 2012.

[249] Silverstone & Haddon, "Design & The Domestication of Information & Communication Technologies," 50-51.

other real-world sites of consumption. Of course, this fits with the institutional interests involved in the iPhone's design, production and marketing. As Rick Popp explains, capitalists see the world remade by new communication technology as a top-down project. Citizens don't use this technology to make new lives for themselves; instead, consumers inhabit a business-designed world built to maximize their dependency on personal communication technology.[250]

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Over the course of four years, from 2007-2011, Apple's advertising discourse helped popularize and domesticate smartphone technology. The iPhone went from a cell phone with a few tricks to a platform with endless possibilities. As the iPhone evolved with each successive model so, too, did its depictions in the television ads. The social relationships portrayed in the first few years were clearly from a wealthy, white male's perspective, but with the release of the iPhone 4 in 2010 this began to change. The focus of the iPhone 4 television ads was FaceTime—the ability to video chat. With FaceTime came an advertising focus on the emotional connections enabled by the addition of video to the aural phone signal. Facial expressions and gestures could now be conveyed through the iPhone and Apple framed these abilities as helping to facilitate emotional relationships as if they were not mediated at all. The ads portray intimate moments such as a girlfriend showing her boyfriend a new haircut,[251] a father making his unhappy

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[250] Rick Popp, "Machine-Age Communication: Media, Transportation, & Contact in The Interwar United States," in *Technology & Culture*, Vol. 52 (2011): 481.

[251] "Haircut," YouTube video, 0:30, Apple television advertisement aired July 12, 2010, posted by EveryAppleAd, October 23, 2012.

daughter smile and laugh,[252] a wife revealing to her husband that she's pregnant,[253] and a father showing off his newborn daughter to his dad.[254]

To emphasize the new role the iPhone could play in emotional relationships, the typical white background was gone. The first-person perspective of the iPhone and the disembodied hands that wielded it still dominated the screen and the viewer's attention, but in the background the white void was replaced by real places—a living room, a maternity ward, a coffee shop. The background remained deemphasized and in soft focus, but in contrast to the white background it was full of color and character and emphasized the kinds of warm, emotional connections that FaceTime and the iPhone offered.

This was the beginning of a fundamental shift in the historical evolution of Apple's iPhone television ads. As the kind of smartphone technology that the original iPhone ushered in became widely adopted and fairly common within the culture—as it became domesticated—the demonstrative and the testimonial format of the ads were gradually replaced by more powerful, brand-building, emotionally themed advertisements. The ads were no longer targeting early adopters unfamiliar with the iPhone's technology, but current users looking to upgrade, or those beyond the wealthy, white-male, tech-geek originally courted. Apple's first four years of iPhone ads produced a conceptual framework and a user base that helped to domesticate the technology successfully to sell the iPhone. Since the release of the iPhone 4 in 2010, the ads have

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[252] "Smile," 2010.

[253] "Big News," YouTube video, 0:30. Apple television advertisement aired July 12, 2010, posted by EveryAppleAd, October 23, 2012.

[254] "Meet Her," 2010.

grown less demonstrative, more emotional, and depict a wider range social identities and situations.

Commercials for the iPhone 4S did away with the first-person perspective and began to tell stories cinematically. The 2011 ad "Road Trip" follows a couple on a cross-country drive,[255] for example, while the 2012 ad "Rock God" follows a young teenager intent on learning guitar.[256] Some even feature well-known Hollywood stars interacting with Siri—the new voice-activated virtual assistant. Still, the iPhone was constructed as a platform that facilitated the consumer lifestyle in an information society. It was framed as the solution to the fast, complex and confusing modern world of social obligations and embodied practices that composed everyday modern experience. Implicit in this framing is that without the iPhone, modern life is far too challenging and complex to manage. It's clear from Apple's design aesthetic, its software, services, and the advertising discourse that made sense of it all, that the iPhone fit this modern world perfectly and could even make it better for users. This is the advertised promise of the control society. Information technology available to consumers like the iPhone is represented as empowering its users by democratizing access to the tools of control. This, however, is problematic.

Technology Fetishism

Introducing the iPhone 4 during a 2010 keynote address, Jobs described its material form as "really hot." On the screen behind him played a video that can only be

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[255] "Road Trip," YouTube video, 0:30, Apple television advertisement aired February 8, 2012, posted by EveryAppleAd, October 23, 2012.

[256] "Rock God," YouTube video, 0:30, Apple television advertisement aired February 8, 2012, posted by EveryAppleAd, October 23, 2012.

described as gadget porn: an extreme closeup shot tracks sensuously along the smooth edges of the device, light and shadow emphasizing its supple shape and precision engineering. “It’s one of the most beautiful designs you’ve ever seen…just gorgeous!” Gratuitous images and hyperbolic rhetoric glorified the materiality of the device, fetishizing the sleek metal and glass body of the iPhone, rendering it an object of supreme desire.[257]

Apple’s framing of the iPhone is clearly utopian.[258] It constructs a world improved by smartphone technology, where the iPhone enhances daily life and empowers users in a variety of ways.[259] The background music in each ad is playful and optimistic; each hypothetical situation is full of happy people who are meeting friends, going on vacation, and gaining access to their wants and needs. Of course this is advertising at work presenting an ideal world, but behind the sleek metal and glass, behind the convenience and utility, behind the simplistic user interface, lurks other uses and capabilities of the device. Technology fetishism celebrates those qualities that are most useful by focusing attention on the characteristics that make the technology amazing,

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[257] “Apple WWDC 2010 - iPhone 4 Introduction,” YouTube video, 52:24, posted by AppleKeynotes, August 25, 2012.

[258] Nancy Baym defines “utopian” as "envisioning a world improved by technology...technologies are seen as natural societal developments, improvements to daily life, or as forces that will transform reality for the better.” Baym, *Personal Connections*, 28.

[259] "Utopian rhetorics emphasize the happy prospect that technology will liberate true selves from the constraints of geography and the shackles of marginalized social identities and empower them to enrich their offline relationships and engage in new online relationships." Baym, *Personal Connections*, 38.

remarkable, or, as Jobs proclaims, "magical."[260] But in so doing it hides the complete story and the technology is only partially understood.

Technology fetishism endows technology with powers it does not have.[261] When a series of iPhone commercials claim to be "solving life's dilemmas one app at a time,"[262] the discourse locates the solution to problems within the technology itself, eliding the complexity of the world and simplifying its problems. The ads present nothing but the iPhone helping people connect with friends, be better workers, and achieve material satisfaction. It presents the world and the user's place within it in a way that markets the product well, but the fetishistic framing endows the technology with an agency it does not have, one that serves to reinforce the idea that this technology is necessarily good and there's no reason to be concerned or any need to control or limit its use.[263]

This is not to say that the features Apple celebrates aren't amazing and personally empowering. A simply designed, user-friendly, hand-held device that offers the converged potential of a number of previously separate technologies can be exceptionally useful. But this utility and these cultural articulations mask some of the consequences of adopting smartphone technology; it's hard to see it in terms of its other qualities. Apple's ads don't frame the iPhone as a market research device tracking a user's every move. The ads don't portray the iPhone's utility to third parties. Instead the ads frame the iPhone in terms of everything it can do to benefit the user.

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[260] "Apple WWDC 2010 - iPhone 4 Introduction."

[261] David Harvey, "The Fetish of Technology: Causes & Consequences," *Macalester International*, Vol. 13 (2003): 1.

[262] "Loopt," 2008; "Shazam," 2008; "Urban Spoon," 2008.

[263] Harvey, "The Fetish of Technology," 12.

Framing plays an important role in shaping the way people think and act. Framing highlights some characteristics while ignoring others, producing a representation that influences perception and action.[264] Demonstrating specific uses for the iPhone embeds in the technology particular ideas about what it's for. It is certainly everything that Apple claims it can be, but it is also much more. It would be just as accurate, for example, to call the iPhone a tracking device, a market-research tool, or an advertising platform, but these tags might compel people to stop and think before enthusiastically adopting the technology, and therefore remain unarticulated in Apple's promotional work.[265]

When people line up and camp outside of Apple stores in advance of a new iPhone model launch, they do so not because they're excited to provide advertisers and data collection agencies with troves of data. They don't line up because they're thrilled by the idea of having their lives on display, analyzed, and used to serve them ads or personalized versions of the internet. They line up because of the fetishized qualities of the device, because each new model adds new features and functionality that are useful, fun and cool, because the iPhone is a symbol of cultural status. The consumer experience of the iPhone is one of empowerment: always connected, in control, well informed, and never lost. What remains unsaid is that the same technology that empowers users also encloses them within the digital network, thereby leaving them highly visible and potentially vulnerable. This is how power is able to operate through smartphones in the control society. Every click, swipe, message, phone call, email, app, or search generates

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[264] Reese, "Framing Public Life," 7-31.

[265] Peter Maass & Megha Rajagopalan, "That's No Phone. That's My Tracker," *The New York Times*, July 13, 2012.

revealing information, as does every physical movement. As helpful as this technology might be to a user, it is also powerfully revealing.

This is why Apple's democratization of access to information technology and the tools of control is an illusory, fetishized representation. Fetishizing the iPhone within the cultural codes of advertising obfuscates the more complex and problematic role it plays within the control society. The smartphone might be framed as a handy tool for the digital age, but it is simultaneously a sophisticated surveillance device capable of producing detailed dossiers about each user. It records, among other things, who you are, where you are, where you're going, who your friends are, who you talk to, when and how long you talk to them, the messages you send and receive, the events you have planned, the photos you take, the videos you record, the webpages you visit, the information you search for, the music you listen to, the movies you watch, the apps you use, and the purchases you make. What happens with this data in the relationship between Apple and the user provides insight into what the technology fetish of the iPhone televisions ads elides.

Chapter 3: iAd Promotional Discourse

As I have just described, Apple's television advertising is aimed at the consumer, at potential adopters of Apple products and services. But Apple also has a much more subtle, parallel marketing posture. Unlike the television advertisements, and unlike most of Apple's promotional material, the iAd service is directed at app developers and advertisers. With this parallel framework Apple defines the iPhone much differently than it does to consumers. This alternative interpretation provides a more complete picture of the technology than the fetishized television ads and provides a deeper understanding of how Apple sees its users and itself.

The promotional material I explore here comes from Apple's iAd website which is a series of webpages promoting iAd to the intended audience of developers and advertisers. These pages are difficult for the average site visitor to find. They can't be accessed from the main navigational tools that occupy the front and center space of the main website—the tabs visitors use to explore all the capabilities and configurations of Apple hardware, software and services available for sale. Instead, it requires navigating to the iPhone webpage, scrolling to the bottom, finding a small link called "iOS for Developers" and then scrolling to the bottom of that page to find another small link to "iAd." This takes visitors to a page that explains what iAd can do for developers. A final link at the bottom of this page leads to advertising.apple.com, where iAd is presented in full detail. This navigational structure clearly discourages the typical consumer from stumbling across the iAd site and indicates a desire to separate the meanings Apple offers to consumers from the meanings offered to developers and advertisers.

The iAd Platform

iAd is Apple's proprietary digital advertising platform, built directly into its mobile operating system. It functions as an advertising exchange that brings together app developers with advertisers in a way that allows them to support each other. Developers are essentially paid by advertisers to open their apps to advertising, which keeps the cost of apps low for end users while at the same time creating a network of apps through which advertisers can reach an audience. This audience of app users can be individually targeted based on the vast amount of user data produced by each person in the simple act of using their iOS device. Apple's intimate data profile for each user is exploited in order to facilitate targeting advertisements.

While most desktop internet advertising is centered around search ads since consumers can be easily targeted based on their search terms, Apple's user data revealed something different on mobile devices. As Steve Jobs explained in his iAd presentation, iPhone users don't use the web browser to search for things like restaurants the way they do on a desktop. Instead, apps have become the most common way mobile users access data on the Internet.[266] Indeed, recent studies have shown that not only do mobile users spend more time with apps than with a web browser,[267] but time spent with mobile apps actually exceeds desktop web access.[268] This means that the kinds of search ads and cookie tracking that Google has perfected for desktop web browsing is being supplanted

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[266] "Steve Jobs Previews iOS 4 and iAd - Apple Special Event," YouTube video, 59:43, Apple keynote address, 2010, posted by EverySteveJobsVideo, December 21, 2012.

[267] MarketingCharts, "More Data Show That, In Mobile, Apps Rule The Web," April 3, 2014.

[268] MarketingCharts, "In The US, Time Spent With Mobile Apps Now Exceeds Desktop Web Access," March 5, 2014.

by advertising and tracking within applications on mobile devices. These trends point to in-app tracking and in-app advertising as the next step in the evolution of digital advertising, and were one of Jobs' core justifications for developing the iAd platform.

The iAd service is built on a network of participating apps that Apple calls the App Network. The App Network is what gives advertisers access to specific users, to "reach the right people at just the right time." Each app in the network has a few lines of code that enable advertisers to target users with in-app advertisements. The apps that add functionality and value for users are also the foundation on which mobile advertising is built. According to the website, Apple vets each participating app to determine characteristics important to advertisers, such as age-appropriate material, so it can assure advertisers of the app's ability to "reach users in the right environment" for their brand.[269]

In addition to the App Network, iAd takes advantage of Apple's iTunes Radio to reach users with advertising while they listen to music. iTunes Radio is a customized music streaming service, but Apple presents it to advertisers as "a way to reach millions of passionate Apple users." It allows brands to "become a part of the iTunes Radio listening and music discovery experience," and to "be part of the buzz around never-before-heard music released first on iTunes Radio." The interactivity and customization that iTunes Radio offers consumers is here repackaged as the ability for advertisers to "tune in to users' precise interests as they customize their musical experience."[270] Together, the App Network and iTunes Radio are the venues in which advertising on Apple's mobile devices is served. In this sense they serve a very similar economic

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[269] Apple, "App Network," accessed June 25, 2014.

[270] Apple, "iTunes Radio," accessed June 25, 2014.

function to the television shows and radio programs designed to attract viewer attention for the purpose of selling advertising.[271]

But iAd is more than an advertising exchange for developers and advertisers. It also includes a software suite designed to make creating in-app advertisements and targeted campaigns relatively easy to produce. Just as Apple's intuitive, user-friendly software has made widely accessible many of the sophisticated functions of computers, the software suites that are a part of iAd simplify the kind of micro-targeting characteristic of contemporary digital advertising. Using the data Apple has collected and analyzed about their users, they supply easy-to-use tools for advertisers to leverage this information and target certain users. The iAd software suite then offers advertisers the ability to create and manage mobile ad campaigns across iOS devices with minimal technical knowledge required.

iAd Producer is an application that looks a lot like Final Cut or iMovie. It provides advertisers with a digital workspace to "make ads richer—and your job simpler." What is otherwise a complicated task of HTML5 coding is simplified into an intuitive drag-and-drop software interface featuring "easy-to-execute animations," "sophisticated effects," and pre-made "blueprints." Video, audio, interactive animations, all the features of professional ad production is made readily available to advertisers. iAd Producer will help "eliminate busywork," "make the complex simple," and "create beautiful ads easily."[272]

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[271] For a study of the economic function of mass communication, see Dallas Smythe, "Communications: Blindspot of Western Marxism," *Canadian Journal of Political Science & Social Theory*, Vol. 1, No. 3 (1977): 1-27.

[272] Apple, "iAd Producer," accessed July 8, 2014.

iAd Workbench also continues Apple's tradition of user-friendly software, presented as the "do-it-yourself campaign creation and management tool."[273] Workbench is designed to allow simplified access to the creation and management of an iOS advertising campaign, featuring the ability to custom target users with just a few simple clicks. The iPhone user base is, as Steve Jobs asserts, "an incredible demographic" for advertisers to target.[274] While iPhone users represent a quarter of all cellphone owners, they are much more likely to come from the upper end of the income and education spectrum than other smartphone users.[275] iPhone users also spend much more time with mobile commerce apps,[276] download more apps in general,[277] and spend more time with their devices on average than other smartphone users.[278] iAd Workbench presents developers and advertisers with access to this desired demographic, as well as to the many more millions of iOS users, all analyzed, sorted, and waiting to be targeted. Workbench is billed as "the simplest way to create, manage and optimize ad campaigns," and Apple invites advertisers to "use our audience insights to understand what they care about so that your message will resonate." "Whether you need specialized insights around their lifestyle, purchase habits, or want to reach your own customers, we've got

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[273] Apple, "Grow Your Business With iAd," accessed August 11, 2014.

[274] "Steve Jobs Previews iOS 4 and iAd - Apple Special Event," 2010.

[275] Pew Research Internet Project, "Smartphone Ownership 2013," by Aaron Smith, June 5, 2013.

[276] MarketingCharts, "Mobile Commerce App Usage Higher Among iPhone Than Android Users," April 16, 2013.

[277] MarketingCharts, "iPhone Users Download Most Apps," March 29, 2010.

[278] MarketingCharts, "iPhone Users Spend 53% More Time With Their Devices Everyday Than Android Users," May 29, 2013.

you covered."[279] Workbench is thus a user-friendly interface for advertisers that lets them manage their campaign by targeting exactly the kind of individuals they want to reach.

While Producer and Workbench provide "the tools for developers and brands to promote their apps and products anywhere on the App Network,"[280] this definition of the iPhone and its abilities stands in stark contrast to that offered to actual iPhone users. Here the iPhone is framed as a market research and surveillance device of unparalleled capability, able to categorize users into useful demographic groups while at the same time providing advertisers direct access to a user's screen.

iAd for Developers

When iAd was first unveiled by Steve Jobs during a small keynote address in 2010, he spoke directly to app developers and framed the technology as a way to help them "make some money through advertising so they can keep their free apps free."[281] By then it was already common practice for developers to offer their apps either free of charge or at low cost on the App Store and to recoup expenses and make a profit by including software from marketing companies, such as Flurry, that surreptitiously captured demographic and location data about users.[282] But for Apple's proposed iAd advertising exchange to work, it needed as many app developers as possible to participate. This was needed to have the kind of reach to iOS users that would appeal to

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[279] Apple, "iAd Workbench," accessed September 28, 2014.

[280] Apple, "iAd," accessed May 28, 2014.

[281] "Steve Jobs Previews iOS 4 and iAd - Apple Special Event," 2010.

[282] Miller & Sengupta, "Selling Secrets."

advertisers, because the more apps on users' iPhones that are part of the App Network, the more opportunities there are to reach users with in-app advertising.

"Grow Your Business With iAd" is the blaring headline that greets visitors to the iAd developers page.[283] Here Apple offers developers two opportunities. The first is the ability to make money by participating in the App Network: "Join iAd's App Network and earn 70 percent of the net revenue generated by adding just a few lines of code."[284] This is Apple's pitch to form a partnership with app developers, a lucrative relationship that creates the core network of apps Apple needs to operate the iAd service. "Join thousands of developers who are generating revenue and delivering the best ad experience for iOS users."[285] The emphasis is on the ability to make easy money.

The second opportunity Apple offers developers is the ability to promote their apps so as to increase the user base: "Get your apps noticed and drive downloads with iAd workbench, the do-it-yourself campaign creation and management tool."[286] Developers are here approached not as partners but as iAd customers, as businesses with a product to advertise. This way of addressing app developers reveals how they are simultaneously courted by Apple as both producer and advertiser, as both the essential ingredient in creating the App Network and as a customer of the iAd service with a product to advertise. But while Apple pays developers a significant percentage of the advertising revenue it produces as part of the App Network, developers pay, like any

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[283] Apple, "Grow Your Business With iAd."

[284] Apple, "iAd."

[285] Apple, "Grow Your Business With iAd."

[286] Apple, "Grow Your Business With iAd."

advertiser, to promote their apps on that network. Apple benefits when developers pay to promote their apps since any increased downloads of participating apps serves to expand the reach of the App Network. Developers essentially pay to build Apple's advertising exchange as they use the iAd service to drive downloads. Developers have a useful platform to reach consumers, but the centralized control that Apple maintains over its products lets Apple conduct business on its own terms. Apple has been able to structure and frame its relationship with app developers in a way that multiplies the value that Apple can extract from developers—first as a key source of value in making the iPhone an appealing product to consumers, then as a key resource in the creation of a lucrative advertising exchange, and finally as a customer in need of advertising services.

iAd for Advertisers

At the iAd Keynote address, Steve Jobs offered some simple math: if the average iPhone user spends thirty minutes a day using apps, and Apple delivers an ad within those apps every three minutes, that yields ten ads served per device each day. Multiply that times the roughly 100 million iOS devices in use, and that makes for a billion advertising opportunities everyday. "This is a pretty serious opportunity," he concluded.[287]

iAd is Apple's attempt to capitalize on the vast trove of data its users produce and to protect its digital territory in the growing mobile advertising market by competing against established mobile advertising services already operating on the iPhone, such as AdMob and Mobclix.[288] If iAd is Apple's attempt to capitalize on its user's data—the

[287] "Steve Jobs Previews iOS 4 and iAd - Apple Special Event," 2010.

[288] Tom Krazi, "Apple Strikes Back At Google With iAd," CNET, April 8, 2010.

users who are the focus of Apple's TV commercials, who are the object of Apple's consumer sales pitches—they are here reinterpreted as a resource to be exploited. They are customers, yes, but also a vital source of data and the subjects of targeted advertising. They are the key elements that make the creation of a mobile advertising exchange possible. Like the multidimensional relationship that Apple maintains with app developers, the user's relationship to Apple is complex and varied. The iPhone is a sophisticated market research tool and advertising platform that doubles the value of Apple's customers. Consumers first pay exorbitant prices for devices and services, then become objects and subjects of a secondary market as their data is exploited and their attention targeted.

Other than pitching developers the opportunity to earn revenue by participating in the App Network, the iAd website is entirely aimed at courting potential advertising customers. In addressing advertiser's interests, the iAd promotional material puts digital advertising's ability to surveil, collect, analyze, classify and target potential customers on full display: "Somewhere within our nearly 600 million iTunes accounts is the exact group of people you want to reach. You can use our audience insights to understand what they care about so that your message will resonate." "Whether you need specialized insights around their lifestyle, purchase habits, or want to reach your customers, we've got you covered."[289]

More than any thing else, iAd is about leveraging Apple's centralized control and access to iOS devices and their users for the purposes of competing for advertising dollars. Along with this comes the logic of digital advertising in a mobile environment

[289] Apple, "App Network."

and the desire to "deliver the right message to the right person, at just the right time."[290] It is possible to "define your target audience by specifying targeting criteria such as device, gender, age, location, context, time of day and iTunes store preferences,"[291] because Apple has constructed "targeting tools built upon a foundation of registration and media consumption data,"[292] and draws "insights from over half a billion validated iTunes accounts and billions of transactions."[293] Having collected, stored, analyzed, segmented and commodified their users, Apple is able to claim to their advertising customers that "nobody knows Apple customers better than iAd."[294]

Thus, the people who Apple addresses through television advertisements, those who adopt the iPhone for its empowering technology are here the product on display: "Speak to millions of iTunes Radio listeners as they tune in," "tap into the App Network," "reach people in their favorite iOS apps."[295] This discourse that Apple employs to market its iAd service clearly raises privacy concerns, and the very bottom of the webpage briefly addresses this issue: "Apple respects the privacy of our customers and the security of their information. Because of this, iAd allows users to control their own ad preferences so that their experience is on their own terms."[296] However, since

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[290] Apple, "iAd."

[291] Apple, "iAd Workbench."

[292] Apple, "iAd."

[293] Apple, "iAd Workbench."

[294] Apple, "iAd Workbench."

[295] Apple, "iAd."

[296] Apple, "iAd."

there are no overt signs or warnings directed at everyday users stating what is being done with their data, and this area of Apple's website is well insulated from the consumer experience, iOS users have little reason to suspect their data is being sold to advertisers and access to their screens auctioned off by the very company whose device they've purchased. Without being aware of the iAd software at work, it's hard to know how to protect one's personal information.

What this brief message about respecting user privacy is referring to is a privacy section within the iPhone's settings that allows users to manage which apps can access certain personal data. Hidden at the bottom of this settings page in the iOS operating system is a tab simply called "Advertising." Tapping this produces an option titled "Limit Ad Tracking," and a link titled "Reset Advertising Identifier." This is the "control" that Apple offers users as evidence of respect for users' privacy. But the default setting grants Apple the ability to exploit the user's data in the way the iAd website describes, which means a user must be aware that this is taking place and aware of the fact there is an option to limit this exploitation before they can take action to prevent it. Turning on the "Limit Ad Tracking" option and resetting the "Advertiser Identifier" supposedly prevents, or "limits" the ability of advertisers to target a user with customized ads. As Apple puts it, "if you choose to limit ad tracking, apps are not permitted to use the Advertising Identifier to serve you targeted ads." "Additionally, iAd will opt your Apple ID out of receiving ads targeted to your interests regardless of what device you are using."[297] However, this message, which is found immediately below the option to limit ad tracking, goes on to say "Please note: by turning Limit Ad Tracking "on" you may still

[297] This is quoted from a "Learn More" link within the iOS 8 Advertising Privacy Settings.

see the same number of ads as before, but they may be less relevant because they will not be based on your interests."[298] So while Apple does offer users some means by which to limit the exploitation of their personal data, the option is framed in a way that suggests doing so will somehow degrade the user experience by divorcing all relevance from the advertising that inevitably appears. Furthermore, the "Advertising Identifier," which Apple describes as "a non-permanent device identifier" that "gives you more control over advertisers' ability to serve you targeted ads," is really one of the necessary ingredients for the iAd service to function. While it is described to the user as something for their own empowerment, it actually functions like an internet cookie, enabling the App Network to link a particular device with a particular data profile and serve the intended target a customized ad.

Apple deserves some recognition for the fact that the option to limit ad tracking exists, and that the device identifier is both temporary and able to be reset. But iAd remains effectively obfuscated from consumer awareness and couched in terms that reframe objects of concern as tools of empowerment.

The iPhone Reinterpreted

In presenting the iAd network to advertisers, there is no mention of the iPhone as a telephone. This function is irrelevant. It is not the ability to make and receive telephone calls, nor is it the great versatility of lifestyle apps that the App Store opens up that makes the device valuable to advertisers. The iPhone features so whimsically demonstrated to consumers in the television ads serve a wholly different purpose for advertisers. Using

[298] Quoted from "Learn More" link within the iOS 8 Advertising Privacy Settings.

the iPhone in the way it is designed and advertised by Apple to consumers creates a secondary market in user data and access for advertisers to exploit. iAd promotional material thus defines the iPhone as a sophisticated device for the collection and exploitation of useful data about the daily routines, practices, and habits of the user. It doesn't refer to the kinds of unique social identities that the television ads address. Instead it discusses what Deleuze calls 'dividuals'—the collections of behavioral data that produce a machine-readable identity.

iAd is part of a digital advertising model that is playing an important role in shaping the relationship people have with their digital technology. Just as the commercial media system that characterizes US media is predominantly funded by advertising, so iAd helps recreates this economic relationship for the mobile media market. As important as iPhone sales might be to Apple, they are also in the business of producing audiences for sale to advertisers. As smartphones become a focal point in the digital economy, the business models that sustain the industry place users in a complicated position. From the iAd perspective, Apple's users are a resource to be mined and exploited. The user is a commodity around which a lucrative market now operates. This analysis of the discourse that Apple uses to promote iAd reveals the iPhone to be among the latest and most sophisticated ways in which producers are able to understand and influence consumers in their ongoing attempts to control consumption.

Chapter 4: Conclusion

Technology is an essential element of human social drama, and the convergence of information and communication technologies into digitally networked devices like the smartphone opens up new playing fields on which the complex social, cultural, economic, and political conflicts within society can play out. The industrial origins of information technologies and their evolution in the context of consumer capitalism have produced sophisticated devices like the iPhone which place users in complex and problematic relationships to institutions of power. This comparative analysis shows how Apple's discursive constructions of the iPhone illustrate some of the tensions that help shape the technology and its users.

This thesis is not intended as a complete accounting of the meanings surrounding the iPhone. To use only this analysis would give undue influence to the structural forces at work producing, marketing, and mining these devices, to the detriment of individual agency that users have to make the technology meaningful in their own everyday lives. While the marketing discourse of institutional producers like Apple does shape patterns of adoption and consumption, it would be a mistake to assume this to be a determining influence in the way consumers perceive and use the iPhone. My intention, however, is not to understand the iPhone in terms of consumer behavior or the meanings that consumers produce, but rather to paint a clearer picture of how the industry that designs, produces and markets this technology perceives its purposes and strives to define them.

The discourse on smartphones that evolved with the iPhone was shaped in part by Apple's advertising. Through co-opting existing discourses, modifying and enhancing

others, creating new and exploiting old subject positions, Apple was able to play a role in domesticating smartphone technology. The success of the iPhone in particular and the smartphone in general isn't necessarily due to the inherent attributes of the technology, although this is surely an important factor, but is due in part to the ability of institutions like Apple to articulate a discourse that is culturally meaningful and socially relevant.[299] This involves the production of thousands of texts, a small sampling of which I have chosen to analyze.

Apple's advertisements aren't alone in shaping the popular cultural understanding of smartphone technology. Google's advertisements for the Android operating system, Samsung's advertisements for Galaxy handsets, and all smartphone advertisements construct ideas about the technology and a framework for understanding its place in the world. Articles and reviews in magazines and on tech blogs also help shape popular understandings of the technology, as do various social networks and communities of people. This along with the open-ended design makes it difficult to say what, exactly, a smartphone really is. Meaning is fluid and uniquely inflected by the various people and groups who adopt and use the technology.

The Flexibility of iPhone

This study is predicated on the idea that technology is socially constructed. The forms and functions of a technology are a social process shaped over time by a variety of forces. These forces are social, cultural, political and economic in nature, and they are

[299] As Munir & Phillips discovered is their study of Kodak, "it is not necessarily the nature of the technology that is important in determining its effects on industries, but rather the discursive activities of institutional entrepreneurs who work to affect the social context of the technology." Munir & Phillips, "The Birth of The Kodak Moment," 1683.

physically manifest in the thoughts and actions of certain interested social groups—through the people who participate in conceiving, designing, producing, framing, and using the technology.[300] Because different social groups often perceive and use technology differently, there is an inherent flexibility in the way technology is thought about and used. Each social group is relevant to the study of technology because they pull the technology toward a particular interpretation or identify certain problems that influence future iterations and thus shape its evolution.

This thesis has examined some of the directions in which Apple has pulled the iPhone through its advertising. These directions reflect the perceived interests of the users, developers and advertisers who ultimately purchase and use Apple's products and services for their own ends. While this study does not intersect with other social groups relevant to the evolution of the iPhone such as regulatory, policy, or national security interests, it provides an entrée into the complex social relationships that shape the cultural and technical form of the iPhone and elucidates some of the important tensions that exist below the sleek metal and shiny glass surface of the device.

The users, advertisers, and app developers that Apple variously addresses and constructs in its ads reflect the diverse and conflicting forces that pull the technology towards different meanings and uses. But Apple does address certain social groups and

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[300] For a general discussion of the social construction of technology see Trevor Pinch & Wiebe Bijker, "The Social Construction of Facts & Artefacts: Or How The Sociology of Science & The Sociology of Technology Might Benefit Each Other," *Social Studies of Science,* Vol. 14 (1984): 399-441; see also Silverstone & Haddon, "Design & Domestication," 44-74.

represent a particular lifestyle into which the iPhone fits most profitably.[301] Apple's different marketing postures reveal the valuable flexibility of the iPhone, as well as Apple's ability to stabilize multiple interpretations of the technology simultaneously. Yet what Apple is selling, regardless of which interested social group they're addressing, is empowerment. The iPhone is constructed as a tool that simplifies, that renders convenient, that grants access, gives control, and enables many things. Apple's television ads demonstrate how consumers can take control of their lives and manipulate their environment with the iPhone, while iAd promotional material offers advertisers and developers tools and resources to solve their industry needs.

As people and their environment are increasingly enclosed within digital networks, empowerment is the ability to interact with and exert control over a digitally networked environment. App developers may endow the iPhone with many of its most empowering features, but they are networked together in a way that enables the empowered behavior of users to be used against them. Mobile ads may not be terribly effective—at least not yet, as some reports indicate[302]—but this, to some extent, is irrelevant. Even if mobile ads are not yet as effective as other forms of advertising, the mobile platforms that Apple and others have built are designed for modulation, for algorithmic control. The iPhone is part of a system that produces and collects information about users in order to analyze and target them with customized persuasive messages. A technical system of modulation is built directly into the device; it is embedded with the

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[301] According to Silverstone & Haddon, the design of communications technology incorporate the user into the technology "in such a way as to enable the user's relationship to fit both with with the intentions of the designer and the embodied possibilities in the functional apparatus of the machine itself." Silverstone & Haddon, "Design & Domestication," 50.

[302] Sultan Khan, "Why iAd's Been Mostly Hype," Digiday, May 1, 2013.

logic of advertising and the control of consumption, making advertising and market research a core component of mobile computing. The empowerment that users experience is simultaneously servitude when using the iPhone, even if its persuasive effect is still weak.

The empowerment/servitude dichotomy appears to be a fundamental characteristic of the smartphone and a primary source of tension within the device. Comparing the iPhone television commercials with iAd promotional material reveals a polarity between the iPhone as a social and cultural technology, and the iPhone as a market research and advertising technology. This dichotomous tension makes the iPhone Janus-like. In Roman myth the Janus is depicted as a single head with two faces looking in opposite directions. This duality is said to represent transitions, such as through doors and passageways, or from war to peace.[303] The smartphone is certainly a doorway to networks of people and computers. Through this doorway a user can project intention and agency by making calls, sending messages, placing orders, or accessing information. But this agency is reciprocated by powerful external forces that project their own intentions back at the user through the device. On one side of the iPhone is the life of a user: an email address, social media persona, photos, videos, music, text messages, video chats, driving directions. It is a device that facilitates life and empowers users in an information society. It plays an important social, cultural, economic and political role in the user's life. It appears wonderful, even magical in what it allows a user to accomplish.

On the other side of the smartphone, however, are the institutional forces that have produced, marketed and sold the device and its services to users. These forces both

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[303] Wikipedia, "Janus," accessed August 8, 2014, http://en.wikipedia.org/wiki/Janus.

large (AT&T, Apple, Experian) and small (Flurry, Drawbridge, app developers) are companies operating in capitalist markets and looking to profit from the possibilities smartphone technology opens up. From this side the smartphone plays an important role in the surveillance, data collection, algorithmic analysis, targeted advertising, and personalized content directed at consumers by market researchers and the interests they represent.

As one face of the Janus, a user can only see the world from his or her side of the device. And while the other side cannot directly see the user, it tries very hard to interpret outgoing and incoming data in order to figure out who the user is and how it can take advantage of that information. This desire of powerful institutions to better understand and access users feeds back into the design of smartphone technology as each new iteration features new sensors and capabilities that dazzle the consumer as they excite the advertiser.

In putting iPhone advertisements alongside iAd promotional material, I attempt to hold a mirror up to the user, to force a confrontation with the opposite side, to show the institutional forces to which a user is tethered. It is difficult to see the opposite side and come to terms with the relationship a user enters into upon adopting an iPhone, but if powerful institutions are able to observe and affect the behavior of users, a reciprocal effort to understand the institutional power at work and resist when necessary is essential to cultivate. Wherever there is power there is resistance, but a properly informed, well-armed resistance is always most effective.

What this study begins to describe is a relatively new and widening avenue for the flow of power within society. Foucault conceived of power as something that passes

through people, like words and images, which circulate among people and construct chains of meaning. It is not something that can be possessed or appropriated; rather, power functions. It works through networks and manifests in the way people behave, in what they do. People are not the targets of power, but its relays. People radiate the epistemic order into which they're born and which forms the cultural medium in which they grow and think and act. Culture and science and the discourses that construct the world flow through people, along the networks of family, friends, colleagues, and neighbors that constitute a social system or society. Power is the force that keeps the physical, social, cultural, and economic structures of society in relatively stable, if temporary, configurations, and the smartphone extends the reach of this power into spaces and situations not previously possible.[304]

The domestication of technology is a function of power. The way it becomes domesticated shapes what uses seem normal and natural, and influence the social functions in which it becomes entrenched. Apple's advertising helped domesticate the iPhone by articulating it with dominant conventions, and in the process it imagined for its audience social subject positions that were culturally compelling, but also financially lucrative. The ads present people whose lifestyles have great use for the capabilities of the device, people who are also financially capable of not just buying an iPhone but also participating in the various forms of consumption that the iPhone makes possible.

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[304] For a discussion of power in these terms, see Michel Foucault, *Society Must Be Defended: Lectures at The College of France, 1975-1976* (New York: Picador, 1997), 29.

Apple's advertisements hail the ideal neoliberal subject, the perfect consumer in twenty-first-century digital capitalism.[305]

Consumption is embedded not only within the iPhone's cultural articulations, but within the software itself. Apple's software designs work with the advertising discourse to circumscribe and channel user practice—conceptually, technically, and algorithmically. This is not to say that Apple necessarily determines how consumers use or even think about the iPhone, but they do construct and enforce a set of parameters beyond which users were discouraged from exploring.[306] The user interface of the iPhone shapes the experience of the device in a way that facilitates, and often necessitates consumption. Software, says Alexander Galloway, is a functional analog to ideology in the role it plays in shaping the user by defining the range of available options.[307] The ideological nature of the software interface compels the user to behave in a certain way, to interact with and use the device in particular, often pre-scripted ways. The iOS software funnels the user through moments of consumption. The interface and the discourse that culturally constructs the technology combine to promote new ways to participate in consumer culture—from spending money to producing data to receiving

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[305] For more on the role of institutions in the domestication of technology, see Silverstone & Haddon, "Design & Domestication," 50; see also Aguado & Martinez, "The Construction of the Mobile Experience," 3.

[306] "Jailbreaking," for instance, is indicative of user actions that exceed Apple's defined parameters. The process of vetting apps before allowing them to be sold on the App Store is another example of the way Apple sets limits on the user experience. For a discussion of these and other tactics see Margo Reder, "How Apple's Business Model Controls Digital Content Through Legal & Technological Means," *Journal of Legal Studies Education*, Vol. 26, No. 1 (2009): 185-209.

[307] Alexander Galloway, *The Interface Effect* (Malden, MA: Polity Press, 2012), 69.

advertising messages. It is perhaps not surprising then that smartphones are increasingly the primary site of consumer purchases.[308]

The iPhone is an intensely capitalist artifact—as product for sale (conceived, designed, marketed, and mass produced), as a marketplace for cultural products (television shows, movies, music, books, apps), as a market research device (producing, storing, and transmitting behavioral information), and as an advertising platform (targeting users with customized, persuasive messages). It also has a functionally ergonomic design that fits exceptionally well into routines of daily information society life. Ergonomics often refer to the way physical, material objects are shaped to fit human biology, but Apple engineers a functional ergonomics that includes hardware as well as software. This convergence of the physical and the virtual forms an integrated experience that fits elegantly into certain lifestyles but then influences and shapes user behavior, often toward consumptive ends. This is the genius of Apple's design.

Older electronic communication technology like television and radio are characterized by a similar polarity between culture and capitalism, but they lack the intimate penetration into an individual's daily life that characterizes the experience of smartphone technology. The integration of mobile computing into the rhythms of the social world opens up new fronts for social conflict to play out. Users can exercise agency through the iPhone as much as they like, but thanks to iAd the exercise of that agency opens them to potential manipulation for the interests of powerful institutions. Agency is complicated for people who incorporate this kind of commercial media technology into their lives because this integration leaves users vulnerable to having their

[308] MarketingCharts, "Mobile Payments Said to Now Comprise 1 in 4 Global Retail Transactions," April 30, 2014.

own agency used against them. It's not that users don't have agency; rather what this study suggests is that agency is circumscribed and channeled by the technology for interests other than users'. The smartphone is a site where the agency of multiple people and institutions comes together in a dialectical synthesis that leaves the meanings and uses of the device open, fluid, and contested.[309]

Apple weaves man and machine together, sewing networked digital technology deeper into the minutiae of everyday life. It engineers a user experience, technically, physically, culturally. It modifies the way people interact and communicate, how they listen to music and watch TV, how they experience the world. Apple produces one of the primary interfaces with the world in the twenty-first century information society, and it inevitably plays a role in shaping social reality.

Discipline, Control & Revolution

While Apple celebrates the control society in its television ads by representing a world in which access to the tools of control appear democratized, the discourse with which Apple constructs the iAd service is a sober reminder that the tools of control that users adopt and rely upon come at a cost. Implicit in Foucault's idea of the disciplinary society is the ability to escape institutional power and authority. The physical boundaries of the factory, the school, or the prison are essential elements for the functioning of disciplinary power. But in the control society there is no escape because there are very few boundaries. As adopting a smartphone or maintaining a social media presence

[309] "The final meaning and significance of the technology is not predetermined nor prescribed—nor perhaps ever final. It is historically and sociologically situated in quite particular ways." Silverstone & Haddon, "Design & Domestication," 59.

becomes a social necessity, as networked digital technology works its way further into the minutia of daily life, and as the commercial forces that influence the evolution of networked information technology find new and sophisticated ways to extract surplus value from people, there are fewer and fewer ways to escape the flow of power and the techniques of control that jeopardize individual sovereignty and agency.

Power in the control society has an insidious quality because it is invisible. The panoptic model that Foucault describes seems nostalgically quaint now that surveillance and the attempt to modify behavior can occur algorithmically at the level of computer code. Control is now a matter of network management. It operates in the to-and-fro flow of information. Devices like the iPhone are an interface between people and this power, but user-friendly software masks its function. Without technical skills and the ability to read and write code, the operation of power is invisible and therefore unopposable. Modulation is a form of control that has no visible face to confront or oppose, so effective dissent requires technical skills in computer science and programming. This makes the hacker the citizen of the control society most appropriately equipped to challenge power.

I began this study by acknowledging the popular idea that smartphone technology and mobile computing are revolutionary technologies. Implicit in this assumption is a technological utopianism that sees new technology as a solution to social problems that will make the future a better place for everyone.[310] Indeed, popular discourse constructs interactive networked technology as a tool of democratic revitalization, inevitably

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[310] Michael Newman, *Video Revolutions: On The History of A Medium* (New York: Columbia University Press, 2014), IX.

leveling the playing field between the classes and opening up a more participatory and politically empowered society.[311] Steve Jobs pushed this reading, calling the iPhone "a revolution of the first order."[312] Sociologists at Pew and entrepreneurs like Michael Saylor also insist on mobile computing's revolutionary abilities.[313]

But this fetishized technological utopianism presents devices like the iPhone as a *deus ex machina*—a magical solution to pressing issues. Michael Newman explains how this kind of thinking relieves individuals of the responsibility for the hard work it takes to address and solve pressing social issues, while it shifts the focus away from the interests and objectives of the powerful people and institutions that produce, market, and profit from the technology. "Revolution talk," Newman says, "bathes media and technology in a glow of optimistic promise and thrill, but is typically devoid of authentic critical perspective or historical understanding."[314]

Mark Andrejevic also points out that the discursive construction of new media technology as necessarily empowering and revolutionary "is both incoherent and misleading: incoherent because it makes claims diametrically opposed to the evidence supplied by concrete applications; misleading because it implies that actual applications are determined by the technical capabilities themselves—that, for example, the internet, by its very nature, ought to be inherently threatening to centralized, hierarchical power

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[311] For sharp criticism of this discourse, see Andrejevic, *iSpy*, 189; see also Evgeny Morozov, *The Net Delusion: The Dark Side of Internet Freedom* (New York: Public Affairs, 2011).

[312] "MacWorld 2007 - iPhone Introduction," 2007.

[313] Saylor, *The Mobile Wave*, 5-6; Pew Research Internet Project, "Three Technology Revolutions."

[314] Newman, *Video Revolutions*, X.

relations." Any consideration of the political uses of new media must, he says, be balanced with the actual applications in which the technology is employed.[315]

The affordances of any technology are the affordances of people to serve their interests and further their goals. Smartphones can be used to organize and resist dominant forces as well as reinforce the status quo, but these are unequal forces. The system of data collection and modulation that is built into the iPhone creates a social terrain that favors existing institutional power and authority. The affordances are new, the experience is new, but the underlying economics and structural forces are continuous with the past.

If the smartphone is an avenue for the flow of power, and power works to maintain a hegemonic order, then the iPhone isn't revolutionary. It's the opposite. Rather than liberate users it is used in new ways to maintain unequal structural relationships that already exist. When social actors operating within the conditions of preexisting social relations take up new media, power is made more efficient and more effective. Resistance might take new forms, but it is not a revolution. It is rather another twist in the unfolding chaos of humanity that brings with it new colors and new flavors of a vibrant, sometimes troubling existence.

[315] Andrejevic, *iSpy*, 189-191.

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