

Technology/Ideology: How Ideological Fields Influence Consumers' Technology Narratives

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Through a systematic study of consumer narratives, this article models how technology ideologies influence consumer-level thought, speech, and action. Applying critical discourse analysis and articulation theory approaches, a semiotic square model represents the relations between Techtopian, Green Luddite, Work Machine, and Techspressive ideological elements in an ideological field. The narratives of individual consumers move between ideological elements in ways suggested by the model's semantic relations. The results reveal novel aspects of consumers' dynamic relations to technology ideology and invite further investigations of technology and consumption ideology.

It is surprising to realize that the wide currency of the term *technology*—originally referring to systems of complex machines, now stretched to apply to items as diverse as fashion, medicine, and food—dates only to the time of World War I (Marx 1997). Despite its relative historical recency and malleability, the notion of science, advanced technique, and mechanistic precision being built into products and services has become one of the most influential drivers of contemporary economies and a natural part of contemporary consumers' experience.¹

For well over a century, theory addressing technology consumption has traditionally focused on the characteristics of complex objects and actions (Bijker, Hughes, and Pinch

1987; Ellul 1964; Heidegger 1962/1927; Marcuse 1964; McLuhan 1962; Spengler 1932), as well as on a vast range of cultural, historical, and psychological features of organizations and individuals (Castells 1996; Gatignon and Robertson 1985; Haraway 1991; Hayles 1999; Marx 1967; Mumford 1967; Rogers 1995; Shih and Venkatesh 2004). Considered as a whole, technology studies constitute an immense field spanning the social sciences. Yet, although we know much about the general macrosocial and cultural conditions surrounding technology consumption, we discover a surprising gap in our knowledge about the nature and processes by which these conditions form into ideologies and how these ideologies influence consumers' thoughts, narratives, and actions regarding technology.

Recently, there has been growing consensus that there is significant explanatory value in specifying the particular cultural and ideological forms and processes influencing technology adoption and consumption (Best and Kellner 2001; Borgmann 2000; Mick 2003; Mick and Fournier 1998; Thompson 2004). For example, Mick and Fournier (1998) suggest that our understanding of technology consumption must include its "meanings" and "myths" (124) and find "sociohistory" determinative of technology paradoxes and coping strategies (126). Borgmann (2000, 422) considers the near-universal, abstract, and dematerialized nature of technology consumption and urges researchers to explore the reasons for technology's "paradigmatic" social appeal. Mick (2003, iii–iv) counsels researchers to adopt an ideological view that investigates "the nature, role, processes, and consequences" of "technology" consumption viewed as "a function of consumption ideology." In order to understand the natural health marketplace, Thompson (2004) proposes that we need to explore an "ideological" and "mythological" set of "discourses" related to technology.

The next step in the investigation of these technology

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¹Technology is, in its anthropological sense of Merleau-Ponty's extension of self, the use of tools, referring both to the tools and their use. As Nye (2007, 5) notes, it is therefore "difficult to imagine human beings as pre-technological." Although they mention the term's openness to "nonmaterial things" like laws, Mick and Fournier (1998, 124) focus mainly upon technology as complex, engineered machines. Like many other scholars, such as Heidegger, Ellul (1964, 3) equates technology (or "techne") with the totality of efficiency-driven techniques and machines in a society. The term's "unstable meaning was further complicated in the 1990s when the mass media and stock market traders used *technology* as a synonym for computers and information systems" (Nye 2007, 1). This article addresses an all-encompassing definition encapsulating, but not limited to, contemporary conceptions of "high" or computer- and information-related technology.

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ideologies is a systematic study of consumers' narratives. A theoretical recognition of the ideological nature of consumer narratives in general has gained strength (Belk, Ger, and Askegaard 2003; Bernthal, Crockett, and Rose 2005; Holt and Thompson 2004; Kozinets 2002; Thompson 2004; Thompson and Arsel 2004; Thompson and Haytko 1997). Notwithstanding this growing recognition, we have very few empirical studies that systematically explore and document how technology ideologies influence consumer-level action.

In addition, many studies dichotomize technology ideology, implying that consumers who adopt these ideologies fall into particular categories of either resistant technophobes or exuberant technophiles (Borgmann 2000; Ellul 1964; Marx 1967; Mumford 1967; Rogers 1995; Winner 1986). Alternately, a "paradoxical" viewpoint of technology suggests a more complex viewpoint in which consumers can simultaneously straddle opposing ideologies (Best and Kellner 2001; Mick and Fournier 1998; Thompson 2004). There are very few studies from either of these approaches that make clear their assumptions about the connections between ideological positions and particular consumer actions. An empirical study specifically examining these topics offers significant insight.

This study takes as its starting point the value of addressing these theoretical lacunae. Acknowledging the vast amount of knowledge on the topic, it proposes a model that first synthesizes former theory on technology ideology, rigorously models its (post)structural fluidity, and finally demonstrates the variability of its usage within individuals. The model complements and extends prior research by offering a model that (1) advances our understanding of ideology in general, (2) develops our understanding of technology ideology specifically, (3) specifies the nature of technology's ideological elements and the relationship between them, and (4) demonstrates the within-individual variability of the use of these elements in consumer narratives.

A combination of critical discourse analysis, semiotics, and articulation theory has immense potential to augment scholarly understanding of consumption ideologies. The article begins with a theoretical overview that untangles the often overused terms "discourse" and "ideology," setting them into a rigorous explanatory frame. Synthesizing past literature examining technology, I then provide a grounded model that formulates this extant knowledge in a new way. The article proceeds to analyze consumers' technology consumption narratives. Implications for increasing our understanding of technology ideology, meaning, and consumption close the article.

TECHNOLOGY IDEOLOGY

Ideology, Discourse, and Articulation

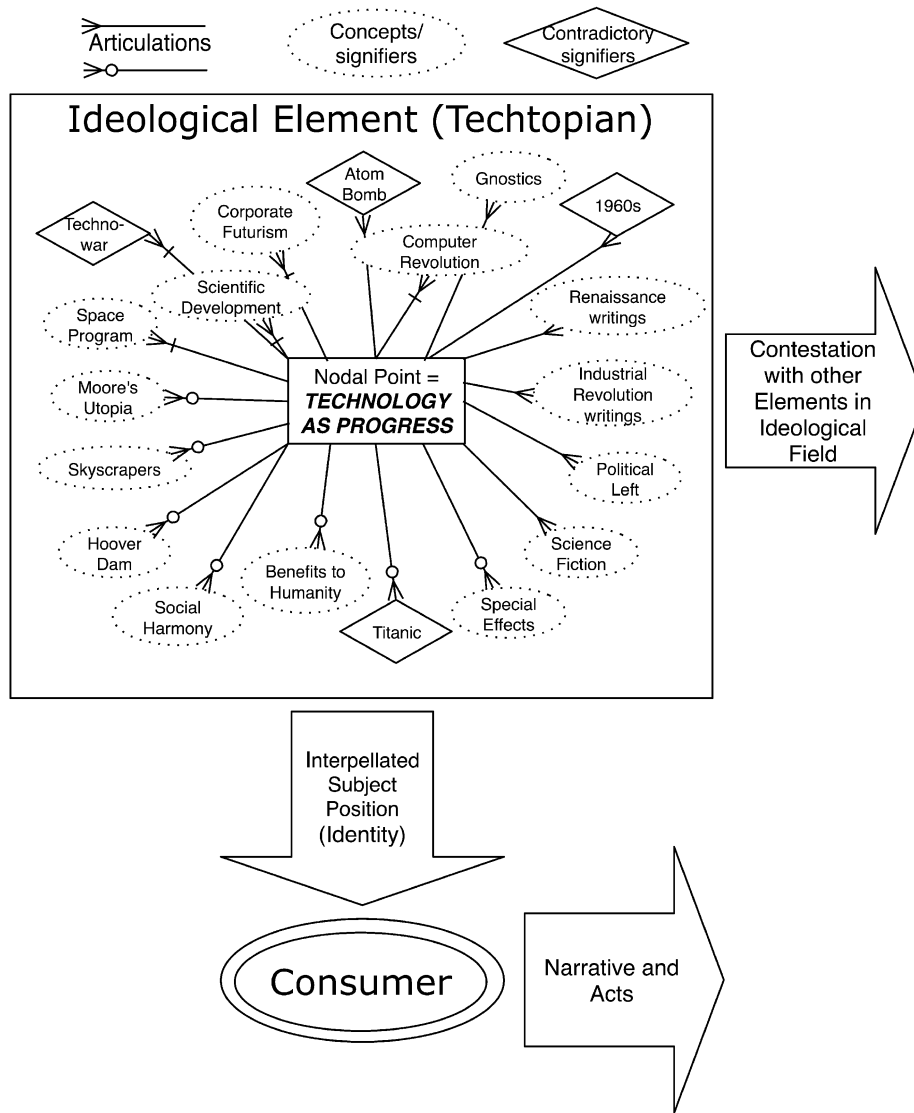
How can we better understand technology ideology and how it operates in consumers' narratives and acts? First, we must systematize an ideological understanding of discourse. Consumer culture researchers have increasingly used the term "discourse"—a word that popularly refers to either oral or

written speech—in theoretical explanations. However, the term has been used to refer to several distinct social forms. So although Holt and Thompson (2004) use the term almost exclusively to refer to the mediated representations of "mass culture texts" (426), Belk et al. (2003) use it both to refer to the everyday speech and writing acts of consumers as expressed through their journal entries, interviews, and projective data (326) and also to contemporary institutions and values such as "modernity, capitalism, individuality, and independence" (346). Thompson (2004) uses the term to encompass "mass media discourses" (165), "mythic discourses" (165), "marketplace discourses" (169), as well as consumers' "conversational discourses" (170). Following Foucauldian practice, consumer researchers conflate ideological and institutional abstractions with their actual representation in mass cultural texts of all kinds and in consumers' writing and speech acts.

This article concerns itself with ideology but also with its mass cultural and consumer narrative manifestations and will, for the sake of clarity, refer to each separately. However, specifying aspects of ideology and their relationship to mass cultural and consumer narratives (or discourses) is an important theoretical contribution of contemporary critical discourse analysis (Brown and Yule 1983; Van Dijk 1998; Žižek 1989). Poststructuralist, deconstructionist, and postmodern critiques of ideology are based upon the suggestion that a fixation of ideology's meaning is impossible, that meaning has unending fluidity. An influential recent discourse analytic response to this critique holds that a given ideological field, although never completely stable or fixed, is the result of a montage of heterogeneous "floating signifiers" being totalized through the intervention of "nodal points" (Žižek 1989, 125). Lacan (1977, 154) suggested the existence of a *point de capiton*, or quilting point, a semiotic anchor that retroactively fixes the meaning of whole chains of signifiers. Blending articulation theory (see Hall 1980; Kozinets 2001, 70–71) with discourse theory, Stavrakakis (1997, 264) asserts that "ideological discourse should be conceived as an articulation (a chain) of ideological elements around a nodal point, a *point de capiton* (or a family of nodal points), such that their identity is modified as a result of the articulatory practice" (Laclau and Mouffe 1985, 112). Consumers interpellate the ideology, that is, they assume a subject position from which the ideology gives them a strong sense of personal and social identity. Through acts of interpellation, resultant ideological structures influence writing or speech as it manifests in mass cultural texts or in consumers' narratives (Laclau and Mouffe 1985; Žižek 1989). Figure 1 represents a model of a particular ideological element, illustrating how the nodal point articulates disparate concepts or signifiers into a cohesive ideology (yet also accommodates inner contradiction) and is interpellated by the consumer. The Techtopian ideology is explicated further in the following section.

The following section also specifies a synthetic model of technology ideology that broadens this perspective. Technology ideology is represented as a particular ideological

FIGURE 1
AN IDEOLOGICAL ELEMENT: NODAL POINT, CONCEPTS, AND INTERPELLATION



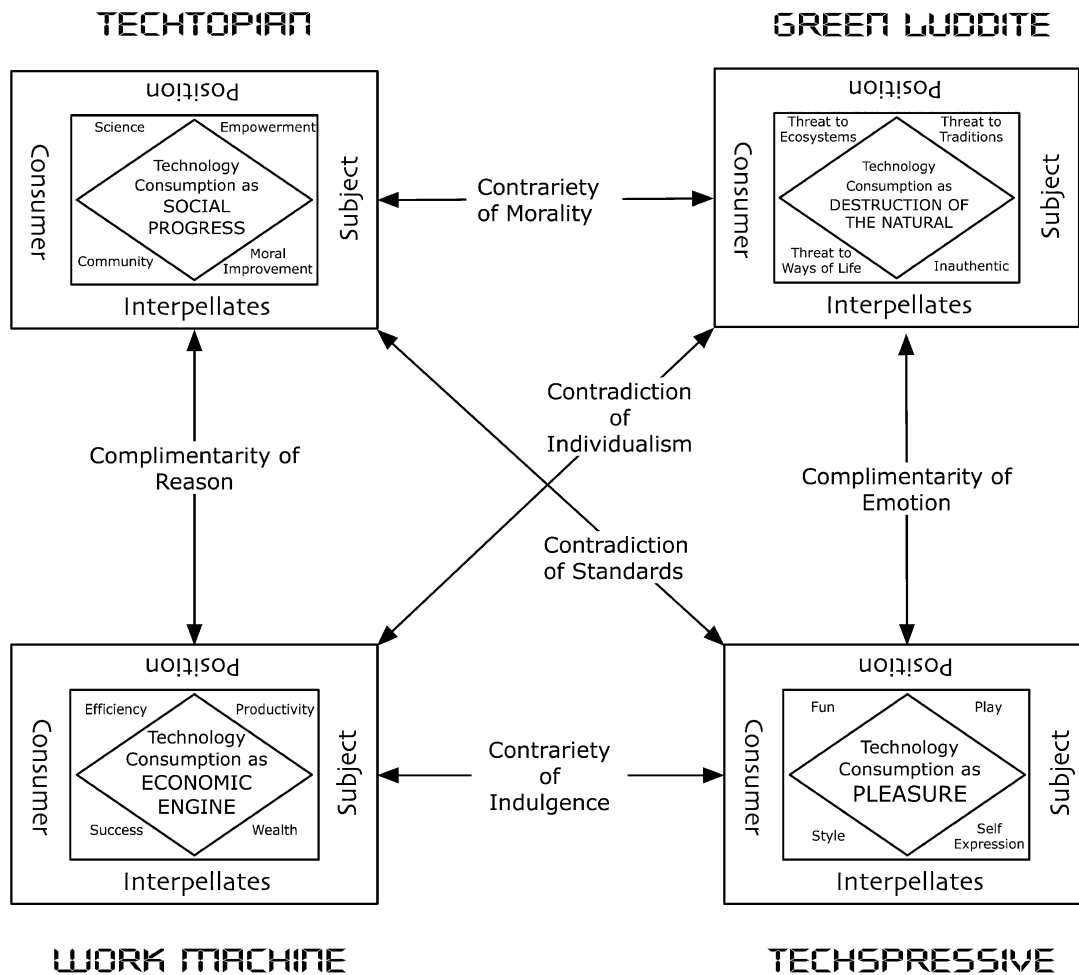
field constituted as a family of four ideological elements that are themselves anchored by four institutionalized nodal points. Bridging this post-structuralist perspective with the structuralism of the semiotic square, the model demonstrates something novel: the systematic nature of the interactions between these ideological elements. In the model, fluidity and structure interact. Ideological nodes articulate ideological elements and fix meanings, but the interplay across the entire ideological field is underdetermined. Based upon their own social situation and psychological orientation, consumers shift from one ideological element to another in their speech acts and practices with unexpected flexibility.

Four Ideological Nodes of Technology Consumption

The semiotic square was developed by Algirdas Greimas (1987) as a way to analyze the relationships between paired concepts. The semiotic square maps the logical conjunctions and disjunctions that relate the key semantic features of a text through their polarities (see also Jameson 1972, 2005). In wide use in cultural studies, the semiotic square has been used less often in consumer research, although it was usefully employed in Floch's (1988) study of hypermarkets, Mick's (1991) conceptualization of monadic gift giving, and Holt

FIGURE 2

THE IDEOLOGICAL FIELD OF TECHNOLOGY: A SEMIOTIC SQUARE



and Thompson’s (2004) study of masculinity. The semiotic square’s ability to penetrate and enrich apparent binary oppositions is particularly valuable in a study of technology ideology because prior theory often conceptualizes the category in terms of a paradox (Best and Kellner 2001; Mick and Fournier 1998; Thompson 2004). As Jameson (2005, 373) notes, the semiotic square depicts paradox’s driving desire for “a kind of impossible synthesis, in which contraries or contradictions find some ideal solution.” This relentless but unrealizable desire for semantic resolution drives consumer-level sensemaking between ideological nodes within the ideological field of technology.

As Žižek (1989) and Stavrakakis (1997) explain, the ideological node is related both to radical, historical ruptures that seal meaning onto particular categories of things and to the Lacanian “One,” a point of “preference” that is interpellated as the “lack of a lack,” a filling-up that confers a sense of supreme meaning. What constitutes technology ideology beyond the variation of content and context is thus

its articulation around a family of institutionalized nodal points. These nodal points self-referentially, tautologically, and performatively specify a particular supreme good, and by articulating that good to technology they fulfill the evaluative, institutionalizing function of ideology.

The semiotic square in figure 2 is based on a deep reading of a range of technology-related texts, an analysis of mass cultural texts, and an interpretive analysis of consumer data. It represents in its totality the ideological field of technology. There are four interacting ideological elements in the model, each centered on an ideological node. I expand the traditional semiotic square by providing a description of the Lacanian One (Žižek 1989), the supreme technological meaning that anchors the ideological node. Contradictions are crucial to the theory because the unrealizability of each ideological node’s actual fulfillment fuels the model’s dynamism. Ideological contradictions occur because the One appears full yet is always lacking; it promises supreme fullness and goodness but tautologically reveals its own lacking

and impossibility (see Belk et al.'s [2003] related exposition on Lacanian desire, 329). As an abstract ideological notion that transcends experience with any particular technological thing or event, the field of technology promises fulfillment and resolution but is wracked with inner contradictions.

The semiotic square begins with a central binary opposition. Given the centrality of progress within meanings of technology, I begin with a basic opposition between the Techtopian ideology that articulates technology as a supreme good central to the enhancement of communities and societies and the Green Luddite ideology that articulates nature and natural ways of living as the supreme good, thus articulating technology as destructive and harmful. Next, we consider the negation of these two polarities that are not accounted for in these simple binary oppositions. The negation of technology as social progress is a view that articulates it onto the supreme good of individualistic pleasure, an ideology I term the Techspressive. The negation of a technology ideology articulating technology to be unnatural, costly, and destructive is the Work Machine articulation of technology as supremely efficient, economical, and productive. Because these ideological elements and nodes each have rich historical backgrounds, the semantic mapping can be only partial. However, in the remainder of this section, I detail in turn the nodal points of each ideological element and the complementarities, contrarities, and relations between these elements of the ideological field.

Techtopian Ideology. The nodal point of the Techtopian (technologically utopian) ideology is the articulation of technology with the supreme plenitude of progress. As an ideal, progress is “the assumption that a pattern of change exists in the history of mankind . . . that it consists of irreversible changes in one direction only, and that this direction is towards improvement” (Pollard 1968, 9).

The Techtopian ideology was initially articulated through the influential utopian writings of what historian Jacques Barzun (2000, 117–43) terms the early and later “eutopians” of the Renaissance and Industrial Revolution periods, respectively. In these periods, philosophers and thinkers sought to understand periods of social change. Through their works, scientific ideas became articulated onto representations of alternative places (such as Sir Thomas More’s 1516 classic, *Utopia*, which coined the term), and thence onto alternative social systems and future times. Gnostic medieval monks furthered the articulation of moral good and technological development, championing the idea that people and societies could be brought to a perfected state through the proper utilization of science and its tools (Noble 1999). A range of seventeenth- and eighteenth-century philosophers—including Francis Bacon—heralded the idea that social and technological progress are interlinked.

The technologically utopian flame was, over the course of time, articulated and rearticulated as many others carried it: the progressive left, religious sects, and the prognosticatory subculture of science fiction literature, and corporate managers and their entourages (Ross 1991; Segal 1985). Currently, our globally prevalent “technological culture

measures human progress by technology” and assumes that moral and social betterment go hand in hand with material improvement (Wright 2006, 3). In the late twentieth and early twenty-first century, the Techtopian Gospel of Progress has been ubiquitous in the mainstream and business press, expounded and evangelized by a plethora of writers, analysts, politicians, and businesspeople. For example, Hamel and Prahalad (1994, 321) blanket their advice in utopian ideals as they encourage corporations to control the future by “constantly searching for, investing in and mastering the technology that will bring unanticipated benefits to humankind” (see also Gates 1996).

The quest for scientific and technological progress has also long been tied to the sublimated religious quest for awe, morality, goodness, and transcendence (Noble 1999; Nye 1994). From steamships to the Hoover Dam to IMAX and the latest Hollywood special effects, technological wonders are intimately tied to an ultimate sense of goodness and fullness, a sense of what Nye (1994) calls “the American technological sublime”—a self-evident emotional reaction to a work of technology whose motion and scale render observers speechless before its transcendence of ordinary reality.

Yet, although it remains pervasive and appealing, contradictions in the Techtopian ideology arise from its placement of an overtly moral tone and optimistic perspective over technology’s essential amorality and pragmatic inaccessibility. Many authors have linked the optimistic values of the late 1960s social movements in America to high technology culture and its ideology (Castells 1996; Markoff 2005). The optimistic values are questioned by successive generations who see them as hypocritical and deluded. Similarly, the bloom of the technologically utopian “revolutionary” rose of the 1990s (noticed by writers such as Tom Frank [2000]) waxes and wanes as new technologies emerge to overtake old ones, which themselves diffuse and rapidly become mundane. The nodal point of technology as progress is problematized by various historical negations, disasters, and insufficiencies linked to technological developments, such as the tragedies at Hiroshima, Bhopal, and Chernobyl.

The Green Luddite Ideology. The Techtopian ideology emphasizes the link between social progress and the use of technology, yet the actuality of the Machine Age contains a darker side that deskills craftspeople, debilitates traditional ways of life, and despoils the natural environment. With the advent of the Industrial Revolution, the Luddite movement—a large, organized anti-industrial militia—acted as a social counterforce that destroyed early textile mills until the British government brutally suppressed it (Sale 1996). In the ensuing years, the Luddites and their social movement have been both lionized and mocked. Nonetheless, the terms Luddite and Neo-Luddite have been used by writers, thinkers, radicals, and activists as ideological signifiers ever since. Carried and enlivened by the various articulations of the Amish, Quakers, beatniks, hippies, downshifters, voluntary simplistics, greens, ecofeminists, antiglobalizers, and many other collectives, the Luddite ide-

ology casts technological development as destructive of nature and authentic ways of life.

Over time, as technology became increasingly interwoven into consumers' daily lives, the anti-industry aspects of the Luddite ideology became increasingly irrelevant to the average consumer. However, the aspects that emphasized more environmental- and authenticity-driven values became more pertinent. The most current articulation, which I term a Green Luddite ideology, focuses on the supreme good of nature and traditional ways and questions and undermines the Techtopian articulation of technological development with human social betterment.

Edward Abbey's *Monkey-Wrench Gang* novel is the Green Luddite ideology in dramatic high relief. Following an ideology that casts nature as the supreme good, the book describes and justifies techniques for the "creative destruction" of the "technocracy," a "counter-industrial revolution" aimed against "the megamachine" (Abbey 1975, 167, 225, 229; Kaczynski 2007). Following this ideology, environmental *Earth First!* activists use monkey-wrenching tactics to sabotage the industrial machinery of loggers and miners (Manes 1990). Similarly, "culture jammers" and other activists draw on Green Luddite articulations of authentic human being by authors like Abbey, Neil Postman, Naomi Klein, Jerry Mander, and Kalle Lasn and seek to resurrect traditional ways of life (Kozinets and Handelman 2004; Rumbo 2002).

Yet, the Green Luddite ideology suffers from its many stigmatic associations. Articulated with ostensibly thuggish and violent historical losers, dire social and environmental concerns, out-of-date movements like the hippies, and not-so-sexy groups like the Amish, the Green Luddite ideology is rank with unrealizable objectives and frustrating futility. Although it provides one of the few ideological positions from which to resist technology consumption, it contains stigmatic associations of an unfashionably unpopular moralism, an austere, principled, steeped-in-tradition yet inherently dismal and reactionary affair (Kozinets and Handelman 2004).

Contending Ideological Elements. As can be seen in figure 2, the Techtopian and Green Luddite ideological elements are centrally opposed in the ideological field. The former sees technology consumption as an unmitigated social good, the other as inherently detrimental. This is a contrariety of morality. However, internal contradictions mollify this stark opposition. A strict adherence to either ideological element is problematic. The Techtopian ideology is naive; the Green Luddite ideology is unrealistic and old-fashioned. Both seem didactic and one sided. However, other technology ideologies enrich and expand the basic relationship.

The Work Machine Ideology. Modern economics—in particular, capitalism—and technology became ideologically united through their coincident development during the Industrial Revolution and the ensuing Machine Age (Best and

Kellner 2001; Castells 1996; Ellul 1964).² The nodal point of the Work Machine ideology is the articulation of technology with the supreme good of Economic Growth. The Work Machine ideology articulates meanings of industriousness, efficiency, and personal empowerment onto technology, elevating it into an engine of national, global, industrial, corporate, and individual worker wealth and success. For example, prominent theorist Thorsten Veblen believed that work with machines (specifically factory or manufacturing work) "indoctrinated workers with a skeptical, scientific attitude toward production," creating "a healthier frame of mind for workers" (Stabile 1987, 38). Similarly, the "scientific management" work and writing of F. W. Taylor (1911) in America articulated the supreme good of economic efficiency and productivity onto technology and its proper utilization (see also Howard Scott's Technocratic movement in American politics of the 1920s and 1930s [Elsner 1966]).

Through industrial and information economies, technology mastery became the sine qua non of professional ambition and personal effectiveness. The Work Machine ideology articulates technology onto efficiency, resource control, productivity, wealth, and success—objectives centered on economic growth. Yet, as its name implies, the Work Machine ideology is contradictory. As industrial technology's influence grew ubiquitous, theorists and other writers warned of its lasting derogatory effects on society and diminution of the human spirit (Capek 2001/1921; Ellul 1964; Heidegger 1962/1927; Mumford 1967; Spengler 1932). Alongside its golden economic promises, the Work Machine ideology now rings with overtones of enslavement, exploitation, conformity, and a loss of control.

Contending Ideologies. In the ideological field of technology, the Green Luddite and Work Machine elements contend. The former values the natural as the standard of goodness and considers technology destructive, while the latter views economic growth as the standard and sees technology as productive. Their counterposition is based on a fundamental disagreement or a contrariety of standards. Considered using the Green Luddite's natural, Romantic, and traditional Humanist ideological standards, technology is detrimental, but considered against the Work Machine's economic, monetary, productive, standards of achievement, it is beneficial.

The Techspressive Ideology. The Techspressive, which articulates the supreme fulfillment of pleasure onto the category of technology, is the most historically recent element of technology's ideological field to develop. Key to this development has been the rising importance of video games in Japanese, American, and world cultures. Since the 1970s, global youth culture has been increasingly influenced by the presence and interactivity of video games. Beck and Wade (2004, 5–6) argue that "video games are a standard part of

²Although Marxists might point out Marx's fascination with technology and its separation from capitalism per se, the recent rise of the term "techno-capitalism" captures my point (see Suarez-Villa 2000).

our culture” and that there is a “game generation” with technologically influenced characteristics unique from those that preceded it (Rushkoff 1996; Tapscott 1998).

As the speech, texts, and practices surrounding video-gaming in mass culture were articulating an ideology of pleasurable play onto the category of technology, a geek chic was setting the pace in the 1990s, providing technologically enabled role models of cutting-edge fashion, entertainment, and art. Whether one was an aspiring visual artist, designer, architect, music composer, or film-maker (or just a consumer), at some point during the 1990s one discovered that contemporary self-expression now required the consumption of digital technology (Murdock, Hartmann, and Gray 1992; Schau and Gilly 2003). By the mid-1990s technology had become ineluctably interconnected to realms of playful pleasure, as expressed in the popular term for new technological gadgets—“toys”—and captured concisely in the titling of *Wired Magazine*’s monthly new technology review section: “Fetish.” Articulations of youth, cool, creativity, and fashion form the heart of the Techspressive ideology.

However, as with the other technology ideologies, these apparently supreme plenitudes of meaning reveal their essential lacking. Consumers’ compulsion to self-gratify by escaping into dramatically altered digital realities became the basis for a range of mass culture cautionary tales of technological seduction and dystopian societies such as those featured in the *ExistenZ* and *Matrix* motion pictures. Technologically mediated pleasure, escape, and expression are evanescent, diversionary, and fleeting. The liberation they provide easily turns antisocial, addictive, frivolous, and onanistic. As Murdock et al. (1992, 156–57) note, “Despite its centrality [to computer consumption], games-playing has never quite shaken off the connotations of addiction that surrounded the early arcade games.”

Contending Ideologies. Following the second diagonal of the model, the Techtopian ideology’s emphasis on the serious pursuit of social goals of progress is absent from the Techspressive ideology of personal expression and pleasure. This *contrariety of individualism* reveals how social goals are absent from the Techspressive ideology, and a joyful hedonism is absent from the Techtopian ideology. Work Machine and Techspressive ideologies differ along a *continuum of indulgence*, where the Work Machine ideology sees technology consumption from an unemotional, instrumental perspective, while the Techspressive ideology sees it as a highly pleasurable goal in its own right. With their enlightenment and functionalist industrial ideals, both the Techtopian and the Work Machine ideologies contain a complimentary relation to calculative notions of reason, while the appeal of the Green Luddite and Techspressive ideologies relate to their romantic relations to emotion and passion (fear and pleasure, respectively). Techtopian and Green Luddite views tend to be more socially and collectively oriented, while Work Machine and Techspressive tend to be more individualistic.

Considering the Past Research in Light of This Model. Past research has tended to study technology consumption as primarily situated in one of these ideologies (Postman 1993) or, more often, as a polarity between two ideologies. For example, Best and Kellner (2001, 155–57) look at “the burgeoning array of discourses that characterize media, computer, and biotechnologies” (i.e., recent “high” technologies) and find a stark opposition, a “highly conflicted” and “dichotomous discourse” between a salvific “technophilic outlook” and a “technophobic mind-set” that sees the technology “as our damnation.” Thompson (2004, 65) characterizes the American relationship to technology as a Romantic belief in its ability to lead to a divine perfection, yet also “Luddite” and resistant: a relationship that is “ambivalent and even schizoid.” Emphasizing perfection, salvation, and other forms of social betterment and contrasting them with the fear of technology, both of these studies draw mainly from the opposition between Techtopian and Green Luddite ideologies.

Although they do mention progress and social betterment in their investigation, Mick and Fournier (1998, 124–25) mainly situate technology meanings between the extremes of Work Machine “freedom, control, and efficiencies in time and labor,” its internal contradictions of dehumanization, and Green Luddite articulations of environmental and human lifestyle degradation. Most of their eight paradoxes, such as efficiency-inefficiency, competence-incompetence, and freedom-enslavement, relate almost directly to tensions within or between these two ideologies.

This synthesis explicitly models what is rarely stated: that these ideological elements are related to one another in a connected ideological field and are not mutually exclusive. In particular, the model alerts us that these ideological elements can coexist within the narratives and experiences of a given individual. The model adds complexity and nuance to our understanding of the workings of ideology in general and technology ideology in particular. It achieves this not only by aggregating separate ideological elements into a wider field but also by explicating their interaction and specifying the semantic drivers of that interaction. In the following section, I illustrate these assertions through an analysis of the interaction of ideological elements in consumers’ narratives about their technology consumption.

TECHNOLOGY IDEOLOGIES IN CONSUMER NARRATIVES

Methodology and Mode of Analysis

Detailed ideographic analysis is key to demonstrating the processes through which these ideologies are deployed. The ideographic depth required of the data is similar to that required by other studies that have used small, nonrandom samples to locate and describe the discursive models deployed by culture-bearers (Holt and Thompson 2004; Thompson 2004; Thompson and Haytko 1997). Although informed by a range of related research, the findings are presented exclu-

sively through verbatims drawn from six in-home depth interviews.

The six informants were recruited through a classified newspaper advertisement and an e-mail list posting for “a study on technology consumption.” Informants all lived in a major American metropolitan center, and half of them had occupations that directly involved high technology (making the presence of work-related ideologies likelier). They had an average age of 33 at the time of interview (and thus tended to be members of a video game-oriented generation). Half are female; half are from non-Western and non-Caucasian families. Interviews were conducted in the informant’s homes and ranged from 2 to 3.5 hours in length. All interviews were videotaped and later transcribed in their entirety. Informants provided informed consent and were paid. Technology (in particular, high technology) consumption was the subject of interview questions, projective tasks, exposure to print advertisements, and elicitation and observation of consumption. Data were combined and analyzed using conventional iterative interpretive and hermeneutic methods. Multiple versions of the proposed ideological model were proposed, challenged, discarded, reformulated, and refined. The findings are presented in terms of dynamic interactions between the ideological elements of the model as they are expressed through informants’ narratives about their technology consumption.

Contrasting Standards: Moving between Work Machine and Green Luddite Ideologies

At the time of the interview, “Daphne” is a single, 40-year-old Italian-American salesperson for a marketing communications company.³ Although Daphne struggles to gain the skills and knowledge she believes she needs to thrive in an information economy, she feels ambivalent about technology, tending to see it as a necessary evil. She reads about the Internet and high technology and has even taken a short educational course. Relating these, she deploys a Work Machine ideology of personal productivity. However, she is also cautious about the drawbacks of technology and almost immediately directs our conversation into a discussion of the deficiencies of online dating:

I think as more and more people go online . . . they’ve done studies about this, this isn’t anything new that I’m sharing . . . it’s [technology is] preventing people from interacting with the world. *Picket Fences*, did you ever see that show when it was on years ago? . . . There was a great episode on there one time where there was a judge talking to this jury, and he was saying, I don’t know what it had to do with computers, but he said “Computers will never replace the true interaction of people.” And he was absolutely right. Absolutely right! It will never replace the raw intimacies people have when they meet each other. Never! I mean, I’ve never been in a chat room, I can’t imagine it’s that big of a deal.

You go in and chitchat with somebody. That’s not real. Putting yourself out there in the world is real.

Daphne articulates the Green Luddite ideology of nature and authenticity into her own current life project of dating and finding a mate. In this light, technology consumption is detrimental. It seeks to “replace” real life in the real world, preventing people from interacting with one another. It undermines what Daphne terms the “raw intimacies” of physical contact and being. Our continuing conversation emphasizes “rawness” and the “real,” and at one point I counterpose it with Daphne’s rational but unenthusiastic expressions of support for technology elicited by my questions. As we wander through her apartment, which has very few consumer electronics and lacks a home computer, it seems to me that Daphne is actually avoiding technology in her life. With increasing emotion, she denies that she feels conflicted:

I’m in the industry, too, which is a plus. It’s what I do all day long. I try to talk to people to see what kind of projects they are going to have and how we can help them. All day long I’m trying to sell technology. . . . I’m waiting for my financials to change, and I’m sure as it does, so will my technology. If I had disposable income, I would have a laptop, and I know what I would be using it for. It would be to cut right to the mustard to get things done. But then again, I manage time well. Oh, I don’t know if that’s reflected in this apartment yet. I manage things well. [*Looks around the room.*] Tons of clothes on one side, crap on the other. [*Sighs.*] I am actually a very efficient person, who’s been living in a studio for too long and finally has a one bedroom. So, someday there will be a laptop in that corner, and that [*pointing to a corner of the living room*] will be a little entrepreneur thing.

My questions seem to imply or make salient Daphne’s lack of technology as a deficiency she must defend, arousing some of the inner contradictions that point to an interpellated Green Luddite identity as odd or out of touch. This shifts to a Work Machine ideology about using technology as a rational tool for organizing her life and achieving financial success. Using technology to “cut to the mustard to get things done,” to “manage time,” and to be more “efficient” point to the Work Machine ideology and bathe Daphne in a temporary glow of success and status. She ties the purchase of technology to her “financials,” suggesting that she sees them as a type of investment in herself and sees her future self working from home as a “little entrepreneur” building her own fashion design business. She feels strongly about the Green Luddite ideology of technology, seeing technology undermining relationships and causing her emotional pain, reminding her of deficiencies. Yet, her subject position and subsequent evaluative standards shift through the course of the interview, spurred by my questions, her goals, and her consideration of the ideologies’ inner contradictions.

Now, consider the converse story of “Betty.” Born in Bombay, Betty is an unmarried, 29-year-old East Indian software engineer with a background in philosophy and an abiding love of the arts. The daughter of a U.S. Air Force

³Pseudonyms are used to protect informant anonymity.

pilot and his wife, Betty grew up middle class and saw computer science as a way to fulfill her potential: "I had studied computer science in the hopes that I would be able to get a good job and earn good money and these [things] will lead to a better life." However, the actuality of work was disappointing. "Last Memorial Day weekend I had to work from Saturday night to Tuesday night and I worked 44 hours in that time because I had to test this feature because we had to get it ready for this field trial. So it's just like I wake up, I go to work, I work all day, all night until midnight or one o'clock, come home, sleep, wake up, and do this again. And I did this for three days."

Although Betty acknowledges the economic necessity of her relation with technology, she is embittered and feels exploited by it. Her descriptions of software programming as forced work for extreme hours doing detailed, demanding tasks are resentful. The inner contradictions of the Work Machine ideology are apparent: technology promises the supreme essential fulfillment of "a better life" but is in actuality enslaving, dehumanizing, and unpleasant. Through a consideration of contrary standards, she moves to a different ideology.

Betty's home is almost devoid of technology products. During her interview, she reports: "My whole day I'm in front of the computer. When I come home I don't like to be in front of the computer. I like to do something else. And, actually, at home I don't even have many electronic devices, because, for me, I like to live a simple life. I'm surrounded by technology all day, and when I come home I just want to relax." She links technology, even leisure technology such as television or video games, with the exploitative logics of work. Consequently, the nonconsumption of technology becomes relaxation, and, as she puts it in another part of the interview, "balance."

Betty reports: "Technology has pervaded almost every facet of our lives. I mean, not just from our working, but just everywhere. It's crept in, and it's like, you know, I wonder what are the true things in life? What are the simple things in life? Has technology invaded these things? I don't think it has. I think there are real, pure things and simple things, like nature, you know?" Betty's intentional resistance of technology's home "invasion" summons the Green Luddite ideology. To maintain her authenticity, detrimental work machines must be kept out.

In Betty's and Daphne's narratives, we see a fluid movement between Work Machine and Green Luddite ideologies, based upon a consideration of differing standards of personal fulfillment. For Daphne, the Green Luddite ideology is relevant to the romantic standards of real intimacies and meaningful relationships, but the Work Machine ideology relates to her own need for efficiency, success, and social standing—ideologies interpellated into identities. For Betty, the Work Machine ideology's standards of achievement have failed to produce a better life for her, and the ideology's inner contradictions draw her into alternative standards of simplicity and balance associated with nature and avoiding technology consumption.

We find a similar pattern in the narrative of "Velma." Velma is a 30-year-old, Caucasian, e-business consultant and former Silicon Valley software programmer. Although her complex understanding of technology leads to an attitude that is somewhat cynical, she still harbors the Techtopian belief that technology will enable great things for humanity. During her interview, she states "I think the global barriers will come down as a result of all this interconnection." This Techtopian view is complicated when I ask Velma about an abstraction, the future of technology. She responds with an answer that tacks between Work Machine and Green Luddite ideologies.

Velma: Even though everyone says it's supposed to make you more productive and lessen the hours, I think it [technology] is actually making the distinction between work and play too soft. So that you are basically expected to work all the time. . . . And intellect workers, that's been the thing for a long time, . . . your work is supposed to be your life, . . . you also get society's approval thing going.

Interviewer: All right, interesting. What else do you see changing?

Velma: Well, surveillance will be more. I think the classrooms will have cameras in them so the parents can check up and see that their kids are doing okay. I think the workplace, I think you'll have one in your office. Or if you have a home office, that there will be one there. . . . I mean the level of privacy that we don't have right now would probably be shocking to people two generations ahead of us. . . . We basically have no anonymity.

Using the Work Machine ideology, in her interview, Velma repeatedly articulates technology onto labor, to "work," to making "you more productive" and "lessening the hours worked." It seems to be, however, through an abstraction of social influence that she sees technology's double-edged sword, which moves her narrative into the dystopian Green Luddite ideology that refers admiringly to past generations and ways of life. Technology links to work, work is associated with goal pursuit and fulfillment through "society's approval thing." As with Bentham's renowned panopticon, technology reveals society's internalized self-disciplinary standards. Through this contradiction of standards, however, we see the tension between technology consumption creating a more efficient society and ushering in a nearly totalitarian one. Velma's narrative manages to draw upon three of the technology ideologies identified in the model but to emphasize the relationship between two of them, the Work Machine and the Green Luddite. In the next section, we turn to other informants who flexibly alternate between other ideological elements.

Contrasting Perspectives: Moving between Techtopian and Work Machine Ideologies

"Ricky" is a 34-year-old, single, college-educated man who lives in an up-and-coming, recently regentrified urban

area in a mid-size apartment. Ricky uses technology constantly as part of his work as a Web site designer and avidly digests high technology business magazines such as *Business 2.0*, *Wired*, and *Smart Company* for information that could help him earn more money. He does not find his work intrinsically pleasurable, and he uses the Work Machine ideology to talk about it: "Programming never really had any sort of fascination for me. . . . I am not a tech head in the sense that I'm not a programmer." Like Betty, Ricky describes his actual programming work as dreary. However, Ricky becomes very animated when discussing his vision of technology and its implications.

Interviewer: Where do you think it [technology] is going?

Ricky: You know, this is going to sound kind of Pollyannaish, too, as I'm saying it, cause I don't know if I've ever made utterance of this hope for it before, but what I really look forward to is a day, probably within the next ten years, when the technology becomes so transparent and it is just so well developed that it can really break down barriers between cultures and people. And if I really want to chat with someone in Russia who only speaks Russian, they come up with a real time translation software where if I'm typing away it appears in Russian on their little chat screen in real time. Then I can start trading ideas and doing business, or whatever, with that person.

Interviewer: What would you like to see happen?

Ricky: Hmm, what would I like to see happen? Well, on a personal level, I'd like to make a lot of money. [*Laughing.*] I would like to figure out a way to harness the fact that there are all these people from different cultures. Being someone who, um, my father is Filipino, my mother is Irish, so I have a strong sense of the East and West kind of divide. But the fact that they are sort of, well, I'm not wearing it now, but I have a yin yang ring that I wear all the time because I feel that it is very symbolic of me as a person, of being sort of this product of East and West, male and female, all that kind of stuff, and once they [Eastern consumers] are brought into the game as equal playing partners, as we are in the West, the U.S., I would hope that—I haven't given it that much thought, to be honest—I would hope that there would be greater understanding between people and we wouldn't have things that happen like the Middle East between the Arabs and the Jews.

Ricky's utopian "hope" that technology will "break barriers," bringing "greater understanding between people," accords extremely well with the Techtopian ideology. However, intermixing with this collectivist Techtopian ideology is an individualistic Work Machine ideology. When the conversation shifts from a discussion about what will happen in the world to what Ricky would like to see happen, Ricky's own ambition and individualistic orientation become salient. Initially, Ricky begins this section of the interview by stating his individualistic ambition is "to make a lot of money" (and then he laughs, apparently with some embarrassment). This embarrassment seems to invite a personalizing explanation

in a way that links Ricky's biracial background to utopian pursuits and entrepreneurial dreams and to trigger the ideologically and emotionally loaded word *hope*. As he speaks about "harnessing" cultural diversity, he is employing a more functional Work Machine articulation. He then relates this to an understanding of his own social situation as his ideological stance shifts to equality and "greater understanding." Negotiating a self-conscious embarrassment over being ambitious, selfish, and exploitative, on the one hand, and being "Pollyannaish" and naive, on the other hand, he intermixes the entrepreneurial ambitiousness of an interpellated Work Machine identity with the socially conscious morality and humanity of a Techtopian interpellation.

Consider the coexistence of the same two ideologies in this narrative by Velma, the e-business consultant, describing her time working in Silicon Valley in the 1980s:

Velma: Back then it was about trying to build something that was truly great, and now it's about getting rich quick, especially with my classmates from [business school]. They have a lot of that kind of "I need to be a zillionaire" gold rush kind of mentality. Well, it was never about that before.

Interviewer: What was it about? I mean, you said building something great.

Velma: I think it's a kind of engineering pride. Trying to, for example, some, a lot of the people I associated with out in California during that period of time, the early 90s, they were devotees of Richard Stahlman, who was basically a socialist. He was a tremendous programmer. A legend in the field. But he thinks it is wrong for programmers to profit from their programming and that they should . . . basically, that all software should be free. You know he's part of the free software movement. And that programmers should basically be paid by some kind of tax, like the, you know, the income tax the government would pay them or something like that. . . . There's this community of programmers all over the world that would write programs and kind of Stahlman and his devotees were kind of the keepers to make sure what is released and what isn't. And a lot of this kind of snowballed into Linux at one point, and you've probably heard of that because it's made a lot of big news lately, but, um, we were using Linux a long time ago in my company. I never thought anything would come of it, and now I like shoot myself. I knew those Red Hat guys. They're gazillionaires. I mean, but it's, that's the type of mentality. The whole Linux thing started from that. So it totally was not about getting rich or anything like that.

Interviewer: What do you think of that idea that software should be free?

Velma: I don't know. I don't think it should be free. I think there's a lot of blood, sweat, and tears going into it. And generally I'm a capitalist. . . . If you actually do it, I think you should deserve, you deserve something, but as far as the unfair type, anticompetitive practices that Microsoft epitomizes, I think they're disgraceful, morally, ethically.

Interviewer: So what does that say about the Internet now?

Velma: I guess it's more, it's no longer a special place, it's more like a mass market. I guess it's got all the problems that greater society has. Like I was saying, going back to the whole Code of Conduct of Engineers, you know? Code of Responsibility which is not to do that type of activity. Um, to produce free software. It was kind of a part of the same type of thing. To not seek commercial gain from somebody's good will.

Much of Velma's narrative is a tale of Paradise Lost, a missed opportunity in the world of Internet and software. Her tale mixes two elements. First is a Techtopian ideology of social progress, a business-colored interpretation of a caring and sharing community that typifies a utopian space. Second is a Work Machine ideology of personal gain, efficiency ("engineering pride"), and its inner contradiction of exploitation. The key shift in ideologies seems to occur as Velma evaluates the morality around ideas of technology as a bringer of "greatness," that is, key questions of who is benefiting from technology. Again, like Ricky, she is weighting and counterbalancing contrasting perspectives of technology as personally beneficial versus socially beneficial. Is the power of technology used for self-betterment or for social improvement, for collective or individual gain?

Interpellating these conflicting ideologies, she shifts unsteadily between identifications and related motives. "Generally, I'm a capitalist," she declares. When she regretfully says, "Now I like shoot myself. I knew those Red Hat guys. They're gazillionaires," she seems to be speaking enviously of their success. However, she immediately corrects herself with "I mean, but it's, that's the type of mentality." She is alternately associating and disassociating with the individualist ambition of the Work Machine ideology (which is culturally popular) and the altruistic social improvement of the Techtopian ideology (which is morally appropriate and legitimate and also celebrated). The latter is linked, interestingly, with "engineering" and her own background as a Massachusetts Institute of Technology graduate.

It was the collective, utopian ethos that made California's Silicon Valley and the early days of the Internet "a special place," whereas now they are mere trivial and profane "mass markets." Similar to Veblen's (1933/1921) notion of engineers' valuing "productive" over "pecuniary" values (also present in Scott's Technocratic Movement), Velma talks about a collective "Code of Conduct" of engineers, a "Code of Responsibility" that transcends selfish individualist notions of "commercial gain." Ricky's forward-looking narrative found Work Machine opportunities within the Techtopian dream of progress, interpellating selfhood in between the two ideological subject positions to weave his own vision of personal gain amid increasing global harmony. Velma's tale is more regretful and oriented to the lessons of the past, finding missed Techtopian opportunities for social good ruined by greedy Work Machine exploitation. Scolding others for their "unfair," "disgraceful," "immoral" lack of ethics,

Velma's narrative blends and brings to life the uneasy, inherent tensions of Work Machine and Techtopian ideologies.

Contrasting Morality: Moving between Green Luddite and Techspressive Ideologies

Above we were introduced to Betty, the programmer who worked long hours debugging software. Resisting technology consumption in her home and valorizing the natural, Betty lives out the Green Luddite ideology. However, she feels trapped by the social implications of an identity affiliated with this ideology, as she expresses here:

They just thought I was crazy because I didn't have a TV, I didn't have a computer, I didn't have a CD player. And they're like "What do you do?" And I'm like, "I go out, you know? . . . I do stuff, you know?" I don't just like to sit home and stare in front of the TV. That's . . . to me that's not living. I think that's what I mean . . . people have just forgotten how to live. It's like, what has technology done to us? We have all these toys now, you know, these little gadgets and gizmos. Now this is starting to consume us, and this is taking over our time. And this is what people do. They watch TV, and they rent DVDs, and they sit in front of their computer all night, and I mean it's just totally changed our whole . . . I mean the way we live.

Tapping into the Green Luddite ideology, Betty's narrative casts most consumers as entranced by "toys," "gadgets and gizmos." Technology consumption has negatively affected humanity, changed our "whole lifestyle," by rendering us passive, destroying traditions, natural human interactions, and ways of life: "people have just forgotten how to live." Internalizing this ideology has had profound effects on Betty. She adopts a type of segregation strategy. A Work Machine ideology and attendant consumption govern her work life, and the Green Luddite ideology guides her personal life, steering her to particular pursuits.

Betty: When I come home I want to do something else, I want to do something different, just, you know, relaxing. Or I go to the gym or go here or just take life easy, doing something that doesn't involve any technology. . . . I don't always have to have the latest and greatest thing. It's [technology is] not that important to me, you know? It's what I do. I admit, I did get a Palm Pilot. My brother has one, and he just, he's just in love with his Palm Pilot, and he just thinks it's the greatest thing, so he convinced me to get one, so I got one of those. So that's, you know, my only gadget that I have.

Interviewer: Can you tell me about the Palm Pilot?

Betty: Yeah, so, actually it's kind of funny. Because my brother was always telling me to get one, and I was like "I don't wanna get one, I don't wanna get one, I don't really need one," and he's like "Yeah you should." . . . I was just trying to, you know, kind of, you know, get into this whole, like, technological . . . I don't want to say technological

craze or anything like that, but everybody has their little gadgets, their cellular phones and their beepers and their, you know, pagers, and this and that. And I didn't have any of that. And that's how I decided to get the Palm Pilot. . . . It's not that it's a trend, it's something more than a trend to have these gadgets. . . . It's just the idea of them. There's like old-fashioned ways, and there are modern ways, and these are the modern ways. The old-fashioned way is to just write everything down and to have your book and to just do it that way. I feel like I'm doing everything the old-fashioned way. . . . I should be doing something more modern.

Betty's Green Luddite ideology ramifies into an identity with social consequences that she seeks to ameliorate through a dawning recognition and adoption of the Techspressive ideology. In her narrative, the transition between ideological elements is triggered by a discussion of her identity project. Betty manifests her Luddite independence through emphasizing that technology is unimportant to her, that it is merely occupational, and that she does not desire the trendy technology items she terms "gadgets." Then, with a seemingly guilty "admission" and a mention of her brother, she appears to be acknowledging the salience of considering her wider social image and appearance and to judge it deficient. Her narrative moves along a visceral spectrum from fear to social pain to unfulfilled pleasure, shifting from an interpellated identity that views technology as unpleasant to one that casts it as pleasurable and social.

Betty does decide, after being urged by her younger brother, to buy a Palm Pilot PDA and to keep it at work (not at home). She is not, however, using it to be more efficient, which would conform to the Work Machine ideology. Divorced from functionality and work, she talks about the social "craze" of adopting new technologies as stylistic accessories and identity badges. Interpellating a Techspressive ideology, Betty explains that this is how consumers now express themselves. This "trend," which is "more than a trend," is how consumers make themselves appear "modern," up-to-date, and fashionable as opposed to "old-fashioned." Neglected for neglecting her style, Betty "didn't have any of that" and had to "get into" the technological zeitgeist. Betty's narrative demonstrates how the Techspressive's personally transformative properties challenge the Green Luddite ideology. Through a simple high tech accessory that she could consume at work (while still maintaining her home as a technology-free zone), Betty could exhibit a self that was fashionable, pleasure seeking, and attractive. As it transpires in the interview, her very visible use of the Palm Pilot works its intended magic and changes her social world by connecting her in new ways with her brother, her co-workers, and other PDA users she randomly meets.

Contrasting Indulgence: Moving between Techspressive and Work Machine Ideologies

"Roger" is a single, Caucasian, 32-year-old, college-educated, and unemployed salesman who recently bought a home computer.

Interviewer: [Looking at home computer]. How much do you use it?

Roger: When I was doing my job search, I was on it a lot. I do use e-mail a lot, I do have a personal e-mail account, and I know when I work and get my e-mail account through work, I'm still going to use my personal e-mail account for personal e-mails. I'm going to try to not give that address out to friends because I would like to keep those worlds separate. I'm pretty computer proficient when it comes to software packages. I do know Word, Excel, Powerpoint, and I do have a database on there now. I'm trying to get a copy of Microsoft ACT, which is a much better database program, so I'd like to have that, but I do probably spend more time, especially Internet stuff, than I should, but, when I was doing the job search stuff I was on it a lot.

Interviewer: You say you spend more time on it than you should?

Roger: Yeah, sometimes you get on it, and it's hard to get off. It's like watching TV, you know? You get mesmerized by it. When I first got the Internet access at home, I was on it all the time. I was on it constantly. I mean I've been exposed to computers and everything, but I was like, okay, I needed it in the job search and stuff like that, and it has made the job search process so much easier, because I didn't have to really send that many resumés out via regular mail, a lot were sent out via e-mail.

Beginning and ending with pragmatic, work-related matters of job searches and customer contact software (the ACT program for Windows), these parts of Roger's narrative express an interpellated identity consonant with the Work Machine ideology. The technology consumption represented by his home computer "made the job search project much easier"; it made "proficiency" salient; it was in a "separate" and apparently more serious "world" than the domain of "personal e-mails."

Sparked by the moral obligation word *should*, Roger confesses a guilty attraction to the pleasurable aspects of technology. Moving from efficiency concepts and rational comparisons of databases to disclosures of being helplessly hypnotized is a movement from reason to emotion, from concepts to feelings, from mind to body, from the Work Machine ideology to that of the Techspressive. Later in the interview, Roger's Internet consumption is linked to sites that are erotic and music-oriented in nature. The pleasure of these images and sounds has a bodily attraction that is "like TV," in which "you get mesmerized." That intoxication spurs an addiction metaphor: like a drug, Roger "was on it constantly" as if helpless to resist. Then, technology use recalibrates from pleasure to work, fun to serious, playful to efficient—"but I was like, okay, I needed it"—and he speaks of more efficient online job searches and resumés sent via e-mail. Roger's technology narrative and use ping-pong almost effortlessly between the economic motivations of the Work Machine ideology and the temptation and pleasure of the Techspressive.

We find a shift between the same two ideological elements, but in reverse order, in the consumption narrative of “Fred.” Fred is a 29-year-old Japanese American management consultant. Fred’s Techspressive ideology associates technology with play, pleasure, and fun through an ethnically colored lens of childhood activities, science fiction, and imagination. In his interview, Fred states the following:

A lot of the Japanese cartoons you see on TV are very sort of sci-fi oriented, very high tech, very kind of super-robots and spaceships and that kind of thing. . . . I guess as a kid you always want to make believe. Everything around you is sort of mundane. I guess that’s one of the appeals of cartoons. . . . Here’s this imaginary world; these are the kinds of things that can happen. I’ve got two younger, well, at that time it was just one brother, but I think when we would try to play or interact, we would try, it was one of those things where we could easily create role plays and imaginations, create that you have superpowers and capabilities and that type of thing, so it [technology images] just sort of blended into our general play, so that’s one part of the appeal to it [technology].

Fred’s narrative associates technology and “high tech” with the “sci-fi” cartoon world of “super-robots and spaceships,” with play and superpowers. His technology narrative dovetails with the Techspressive ideology, finding not only an awe-inspiring “technological sublime” to marvel at (Nye 1994) but also entrance to a personal and empowering fantasy world of pleasure.

After Fred finishes talking about his youth, I turn to the present and ask him, “In terms of technology in your life now, where do you see it?” His answer: “Ideally, technology is always there to make your life easier. You know, one area that would be, again along the convergence line, is that, it would facilitate a consolidation of everything that I do. And what that means is, I have three, I have four or five different phone numbers that I can get reached at. And it would be nice, twenty years down the road, almost like a social security number, I’d have one identification just because it’s just not efficient dealing with things this way. I like things to be consolidated. It makes things convenient.” As he answers my questions about the present state of technology in his life, Fred turns to the Techtopian “ideal” of progress: that technology is “always” there to make our collective lives “easier.” He develops the concept of information technology facilitating a “consolidation” or “convergence” that is more “convenient,” that will help him to efficiently “deal with things,” a narrative that also sources the Work Machine nodal point. However, when I probe this Techtopian ideology, substituting the broader conception of making “our lives easier” for his self-excluding statement that technology could make “your life easier,” his narrative changes. It picks up the inner contradictions of the Work Machine ideology.

Interviewer: You said technology is always there to make our lives easier.

Fred: Uh-huh, yeah. It’s also an avenue for businesses to

make money as well. . . . Because it makes things more efficient, it’s going to pick up the pace of society, so to speak. You’ve already seen, I’ve got my laptop for work at home, which twenty years ago would have been unthinkable. I mean you’re at home, you’re at home, you know? You don’t necessarily want to work. But now, anyone can reach me twenty-four hours a day. . . . I think it is going to put a lot more pressure on, sort of picking up the pace of your life, in terms of, you’ll be working a lot more, and then, you know, trying to juggle that with your free time lifestyle, so, um, there could be some negative reactions to it.

Fred’s movement from Techspressive to Techtopian and then to Work Machine ideologies is spurred by his attention shifting from the topic of playful indulgence to the serious adult worlds of work and social concern. Moving from broad and ideal social implications to personal, manifest, individual ones, technology is also about “businesses making money,” which at first seems complementary to easing and improving people’s lives. However, the Work Machine ideology’s inner contradictions enter through a technocratic logic of “making things more efficient” and speeding up “the pace of society.” Instead of making people’s lives easier, Fred’s narrative turns technology into a form of unpleasant labor exploitation, a previously “unthinkable” development in which productive work time becomes substituted for personal, leisure, or “free” time. Privacy becomes easily infringed. This is a loss of freedom and control resulting in “a lot more pressure.”

The loss of control theme is also present in Betty’s and Velma’s narratives above. In their narratives, as in Fred’s, the loss of control relates to the internal contradictions of the Work Machine ideology through a conception of vocational empowerment turning to overwhelming obligation. However, this loss of control also links to the Techspressive ideology through avocation’s obsessive propensities. This is demonstrated in the narrative of Ricky, the ambitious Web page designer we met above. In his interview, Ricky expresses an interpellated Work Machine ideology in his narratives of personal efficiency and economic mastery: “I’ve always had sort of a passion for technology in terms of its practical application in real people’s lives. One of my gifts is that I can explain technology in terms people understand fairly easily, which is why they hire me. . . . So, I’m looking forward to an expansion over the next year or so, in terms of the amount of business my, you know, my kind of corporation does, and we’ll see where it goes.” Ricky builds on his understanding of technology to build himself as a business or “corporation,” but he casts it in terms of his own “passion for technology.”

Interviewer: Now, let’s go back in time a little bit to your youth, and . . .

Ricky: [Interrupting] Atari 2600 [laughing].

Interviewer: You and so many others.

Ricky: Yeah, I was, you know, we were one of the first families to get it, and you know, those are still great game

consoles. I wish I still had them. I think I gave them away to a church or something. . . . It [the Atari video game console] was certainly a social tool. Because my family had one, the kids would like to come over. I'm sure I parlayed that somehow into, you know, friendships and relationships and such. And I don't really have any negative associations with it other than excitement and always wanting to go to the store to see if any new cartridges had come in. I mean, I'm sure kids to this day still do the same thing.

Impatient to answer my question, Ricky transitions almost immediately from his Work Machine ideology of "practical application" and business empowerment into a Techspresive articulation of technology as ludic, pleasurable, and exciting. The transition between ideological elements is triggered by my question about his youth. Immediately, Ricky and I talk familiarly about the Atari 2600's indulgent possibilities. He remembers many positive associations, "excitement," anticipation, and a constant drive to learn about and obtain new game cartridges. He "parlayed" the instantly obvious pleasures of the system, turning it into "a social tool" for attracting "friendships." However, this view also has a dark side.

Interviewer: Your eyes light up when you talk about the Atari 2600.

Ricky: Well, you know, it was, it was [long pause]. I've in the last three, yeah, it was three years ago this year, that, um, I had a diagnosis confirmed, that I'd suspected for a while, which is that I have a low-grade variety of ADD [Attention Deficit Disorder]. So bells and whistles and electronic gadgets really capture my imagination [laughing]. . . . People with ADD tend to have a higher incidence of addictive personality, because when they find something they really like, be it drugs or gambling or whatever, they just run it into the ground, you know? They can't really control themselves. For me with the technology addiction, it is something that I kind of have to watch out for, because I know my tendencies.

Ricky pathologizes his relationship with technology. As I probe his evident passion, he describes his technology consumption as compulsive. His ADD causes his "addictive personality," and this addictive personality leads him to lose control. "Bells and whistles" lead to "excitement" and pleasure that is difficult to "control." "I was racking up 500 dollars a month on the Internet because I found it so, well, it was addicting for me. I was just enthralled with the possibilities and meeting people across the country." He also admits that he had some problems with Internet pornography: "The adult entertainment aspects of it [the Internet] sort of fascinated me. For a while, it was just sort of like rediscovering Dad's stash in the closet, you know. But now it was like an unlimited stash." Ricky's narrative draws directly from the internal contradictions of the Techspresive ideology: technology consumption is pleasurable, almost too much so. Enticing technology tempts abuse and is dangerous in ways similar to "drugs or gambling." The sense of technology as detrimental evokes the Green Luddite ideology that

casts technology as immoral and harmful. Ranging through conceptions of self and society, benefit and harm, Ricky comes full circle. His initial ideological position favored the Techtopian view of technology as a socially progressive tool, able to bring disparate cultures together and resolve conflicts, and ends with its personal harmfulness and threatening character. Riding contrarities of morality, indulgence, and individualism, Ricky's interpellated identities and consequently constantly shifting consumption narratives—along with the other narratives presented here—demonstrate the deployment of the ideological field and the dynamism with which it is applied.

DISCUSSION

Technology consumption is a complex affair, laden with history, driven by industry, supported by society. This article continues the important work of building theory about technology, consumption, and ideology with a detailed study that offers some answers to the question of how ideology influences consumer narratives. The model proposed in this article synthesizes and simplifies a vast amount of prior literature in order to specify the Techtopian, Green Luddite, Work Machine, and Techspresive ideologies, their histories, and their relationships in an overarching technology ideology field. Consumers experience their interpellation of positions within this field as identities with emotion-laden value commitments and express them through speaking narratives and other acts.

Another contribution to our understanding comes from the dynamic ideological model. Many recent research renderings of ideology tend to define it as similar to culture—as "systems of meaning that tend to channel and reproduce consumers' thoughts and actions" so as to defend dominant interests in society—and proceed to treat particular ideologies as totalized and static categories (Arnould and Thompson 2005, 874; Crockett and Wallendorf 2004; Thompson and Haytko 1997). This research enlivens that perspective. Consumer culture and modern society are multidimensional, and at any time they have multifarious players vying for their own interests (which, even in themselves, can be complex and contradictory). The model presented in this article accommodates these contradictions. It reflects the contention of a variety of social interests in a consumption-oriented ideological field. Through nodal points, it links historical events with current sociopolitical interests and consumption acts and, through semiotic square relations, it demonstrates how these inner conflicts result in considerable intersubjective variation.

The dynamism of the model is fueled by internal contradictions within and contrasts between the different ideological elements of the technology ideology field. For example, the Techtopian and Green Luddite ideologies are opposed in casting technology consumption as either improvement or detriment to society. They differ as to whether technology consumption (or nonconsumption) is moral or immoral. As an entire ideological field, technology contains this paradox, yet by developing contrarities between ideological ele-

ments and contradictions within them, the model structures surface-level dissimilarities and demonstrates how each ideological element's contradictions are consonant with the draw of other, ostensibly opposed, ideologies.

This article illustrates intersubjective ideological dynamism in action through analysis of consumer narratives. In Betty's narrative, the Work Machine ideology of productivity, for example, is contradicted by an attendant implication of exploitative enslavement and distance from natural and authentic ways of life. Traversing moral standards and emotional relations, this narrative of the natural summons the corresponding Green Luddite ideology of detriment and its attendant strategy of nonconsumption, as observed in Betty's lifestyle. However, as demonstrated in Ricky's and Velma's narratives, these exploitative relations can be countered, while still remaining within Enlightenment forms of reason and industrial empowerment, by interpellating an identity consonant with the Techtopian ideology.

The model is complex, as each ideology is linked to every other one. The findings provide evidence for this proposition, presenting Ricky's narrative drawing on all four ideological elements, and Velma's, Fred's, and Betty's narratives drawing upon three of them (data not presented here reveal them using all four ideological elements). Central to the model's ideology are contradictions in morality (collectivist and individualist), between reason and emotion, and between labor and pleasure or work and play. Through patterns of inner contradiction, each ideological element summons all of the others, but the form that mobilization assumes on the realized level of manifest consumer thought, speech, and action is nondeterministic and unpredictable. It is influenced by the unique gender, ethnic, class, and other social and psychological situation of the consumer, as well as by their their goals, life themes, and life projects. For Ricky, technology is a livelihood, a way for people to connect, and a powerfully addictive joyride. For Betty, it is a livelihood, a detriment to a natural life, and a way to express modern style. These narratives reveal technology consumption as the product of historical ideological elements interpellated into personal relationships with technology that help consumers define themselves as unique individuals pursuing meaningful paths through purposeful lives.

Examining technology, one of the cardinal consumption categories of contemporary times, this research also informs our understanding of the ideological relationship that consumers have with the material world of commercial culture. As with the notions of technology described herein, various aspects and categories of the material world are slippery ideological terrain. The meaning and values of commercial objects jostle about within consumers' consciousness without ever clearly settling. Invoking Lacanian notions of the One and unrealizable desire, we understand more clearly the transient emotional and intellectual links between commercial objects and the more ideologically stable institutional realms such as religion, family, and politics. The apparently "post-modern" indeterminacy of free-floating consumption meanings is illustrated here as an ideologically charged realm of

material culture where objects are signs that reflect institutional struggles, semantic lacking, and ceaseless contestation transpiring on the level of consumer narrative and act.

Technology ideology is, itself, a technology: a technology/ideology. As Hayles (1999, 114–15) points out, "the conjunction of technology and discourse is crucial" to conceptions of contemporary humans as post-human cyborgs. By including and merging technological objects and discursive formations, the idea becomes ideal, transcending the actuality of things and partaking in the power of human imagination that is central to the role of ideology (Haraway 1991; Laclau and Mouffe 1985; Žižek 1989). Technology and science have become the principal cultural and consumption domains that spark "the utopian imagination" in America today, fulfilling the deep-seated imperative to imagine and then desire a better world (Jameson 2005). During most of the last century, the Techtopian ideology has been favored and adopted by big business, entrepreneurs, scientists, academics, socialists, and progressives from the left and the right of the political spectrum (Ross 1991; Segal 1985; Wright 2006). This article helps us to see how technology ideologies focus and channel consumers' identities and lifestyles into this generally utopian ideological direction.

This research began as an investigation that sought to account for high technology's incredible draw. The answer it proposes is that ideologies of technology have become interwoven with almost every realm of human endeavor and imagination: mundane and lofty, work and play, sex and food, progress and improvement, communication and pleasure. With technology consumption constructed not only as the path to social progress and economic growth but also as the road to pleasure, there seems very little ideological space left for consumers to construct a viable oppositional viewpoint. Indeed, most solutions to social and environmental problems now involve adaptations of technology, such as the use of "appropriate" or "green" technology (Steffen 2006).

The model's historical approach makes salient a plethora of repercussive and pragmatic research questions. How have particular ideologies gained popularity over time? How and why have particular historical milieu and social forces favored particular ideologies such as the Techtopian? Careful sociohistorical studies might trace the way that this and other ideologies (such as the more recent Techpressive ideology) have been represented, marketed, and interpellated. The much-maligned but persistent and ever-shifting Green Luddite ideology—the only ideological position in this model from which to oppose technology consumption and undertake technology-based activism—could similarly be traced.

The workings of this model and the small sample of American technology informants used to develop and test it invite further verification and refinement. Do particular consumers tend to adopt one particular ideology as a dominant ideology that directs their narratives and actual consumption (e.g., Ricky's Techpressive-based narratives, Betty's Green Luddite-centered narratives)? How stable are allegedly stable technology stances, such as the innovator

or technophobe orientations, and what is the nature of their relation to these ideology's subject positions? Are there particular relations between lifestyle, values, and ideologies, such as those between more individualistic (Work Machine and Techspressive) and more collectivist (Techtopian and Green Luddite) ideologies? How do these four ideological elements and consumers' movements between them differentially relate to various aspects of consumer identity, such as gender, class, age, nationality, media habits, and subculture membership? Would we find similar or different technology ideologies and relations between them in other nations and regions, such as Italy, France, Finland, Japan, China, and India? As our civilization's use of technology continues unabated and as increased technology development is still hailed as the solution to mounting social and environmental problems, an enhanced understanding of the ideologies governing these narratives and directing our future decisions is of urgent importance and immediate value.

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