Virtual Consumption: A Second Life for Earth?

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Abstract

Consumption is at the root of many of the world’s greatest environmental challenges, yet laws or policies that directly address consumption are rare. Virtual worlds such as Second Life offer the intriguing prospect of displacing a substantial amount of real-world consumption without running afoul of the political and economic obstacles that proposals to reduce consumption often face. In the interactive online reality of virtual worlds, players adopt an “avatar” and participate in an electronic world that mirrors the real world in striking ways. As this Article explains, virtual worlds offer opportunities, experiences, and pleasures that satisfy many of the basic motivations that drive modern consumption. Yet while “virtual consumption” may be a promising substitute for real consumption, virtual worlds also present dangers that require careful reflection before we wholeheartedly embrace them as a tool for protecting the environment.
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Introduction

Consumption is at the root of many of the world’s greatest environmental challenges, including climate change, toxic waste, pollution, deforestation, and loss of biodiversity. Laws or policies that directly address consumption, however, are few and far between. Consumption decisions reflect lifestyle choices, and democratic governments are generally loath to question those choices. The difficulty of confronting consumption head-on highlights the need for alternative approaches to address consumption and its impacts. These approaches ideally would harness or take advantage of current trends and predominant values, rather than run counter to them.

Virtual worlds, such as Second Life, present an important opportunity to develop one such approach. Virtual worlds are “sophisticated pieces of software that enable their users to project an identity into a generated three-dimensional reality through the use of advanced computer graphics and – through the eyes of this digital persona or avatar – interact with other players and wander though this computer-generated reality.”\(^1\) In Second Life and other virtual worlds – sometimes referred to as “massively multiplayer online reality games” or “MMPORGS”\(^2\) – players adopt a persona and enter an electronic world where they can interact with thousands of other participants and carry out an existence that mirrors the real world in striking ways.\(^3\) These interactive experiences are not mere video games, however, nor are they science fiction. Rather, virtual worlds have

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real-world applications and real-world impacts. “Virtual worlds platforms,” Professor Jack Balkin predicts, “will be adopted for commerce, for education, for professional, military and vocational training, for medical consultation and psychotherapy, and even for social and economic experimentation to test how social norms develop.”

Commentators have discussed extensively the intellectual property issues associated with virtual worlds, as well as the general role of law in these environments.\(^4\) Far less attention, however, has been directed to the relationship between virtual worlds and the natural environment. This is a tremendous oversight. Increasing numbers of people are spending significant portions of their waking hours in virtual worlds. Virtual worlds offer – at least in theory – the prospect of other “worlds” free of some of the problems and constraints of planet Earth. More importantly, they may help to address challenges faced by planet Earth itself. This Article examines how consumption in virtual worlds might reduce human pressure on ecosystems by serving as a substitute for consumption in the real world.

Such consumption – which I refer to as virtual consumption – obviously cannot address all resource limitations of the physical world. Some physical constraints are inescapable: a person participating in a virtual world continues to exist in the real world, using physical resources such as energy, oxygen, and the raw materials used to build a computer.

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Despite these limitations, virtual consumption raises an intriguing prospect that merits serious exploration. The problems caused by current and rising levels of consumption, and the difficulty of addressing them, necessitate consideration of all plausible tools for addressing consumption. Commentators have suggested a wide range of proposals, but most have foundered on a reluctance to limit individual freedom to make consumption choices. Virtual worlds, in contrast, might address some of the problematic aspects of consumption without running afoul of similar political constraints.

Part I sets the stage for examining the environmental potential of virtual worlds by describing the current state of consumption and its environmental consequences. Consumption has reached unprecedented heights in the United States and other industrialized countries, and global consumption levels are poised to mushroom further as a result of economic growth in China, India, and other developing countries. The result is pollution and ecological damage at a global scale, threatening human health, global security, and the environment. Part II reviews the leading theories of consumption. Singly, none of these theories explains global – or even individual – consumption. Collectively, however, the theories present a powerful account of why people consume. Part III gives a brief overview of a range of proposals in the literature for limiting or reducing consumption. Although these proposals could significantly affect consumption levels, the serious barriers to their adoption underscore the need to develop additional options for addressing consumption. Part IV begins this task by exploring virtual worlds, using Second Life as a prototype. Part IV examines the potential of virtual worlds to reduce real-world consumption, considering in particular whether virtual worlds can satisfy the drivers of consumption identified in Part II. Although Part IV reaches a
hopeful conclusion on this point and suggests how the law might encourage the development of virtual worlds, Part V warns of some of the potential dangers of excessive virtualization. Ultimately, whether society should promote virtual worlds as a response to consumption poses difficult questions requiring open debate and thoughtful consideration by society.

I. The Consumption Problem

The term “consumption” suggests a using up, or depletion, of the Earth’s resources, yet problems of scarcity often can be overcome by substituting one resource for another. Consumption’s environmental impacts present a greater concern, however, reflecting the tremendous scale and intensity of activities conducted by modern human societies.

A. Environmental Impacts

To describe the impacts of human behavior on the environment, ecologists have developed a formula, I = PAT, where ecological impact (I) is a function of population size (P), consumption or affluence (A), and technologies that affect our ability to consume resources (T). A related concept, the “ecological footprint,” places consumption in context by estimating the sustainability of human consumption of natural resources. According to the World Wildlife Fund’s calculations, humanity’s ecological

6 See id.
footprint now exceeds the Earth’s biological capacity by 25 percent.\textsuperscript{9} In other words, even with nearly 20% of the world living in poverty (defined as living on less than one dollar per day),\textsuperscript{10} it is impossible in the long term for the world’s 6.5 billion people to continue to consume the Earth’s resources at present rates. The prospect of billions more residents in the developing world adopting Western lifestyles and consumption patterns is simply unimaginable.\textsuperscript{11}

Despite the general recognition of overconsumption as a threat, very little has been accomplished – or even attempted – in terms of reining in consumption.\textsuperscript{12} Among the three variables that determine environmental impact in the I = PAT formula – population, consumption, and technological change – consumption has been described as “the neglected god.”\textsuperscript{13} This neglect is not for a lack of ideas. To address the environmental impacts of consumption, many economists call for Pigouvian taxes to send pricing signals that reflect true environmental costs.\textsuperscript{14} Others call for a wholesale restructuring of our economic system or for the adoption of simpler or more sustainable lifestyles.\textsuperscript{15} And technology optimists point to technological innovation as the answer, with hybrid vehicles, green design, and the like promising to reduce ecological impacts.

\textsuperscript{9} See id. at 2. Humanity’s ecological footprint first exceeded the Earth’s biocapacity in the 1980s and has grown steadily since. \textit{Id}.
\textsuperscript{11} See James R. Salzman, \textit{Sustainable Consumption and the Law}, 27 ENVTL. L. 1243, 1246 (1997) (quoting Gro Harlem Brundtland, Norwegian politician and diplomat who helped develop the concept of sustainable development, that “if seven billion people were to consume as much energy and resources as we do in the West today we would need ten worlds, not one . . .”).
\textsuperscript{12} See id. at 1255 (discussing lack of enactments addressing consumption in a systematic manner).
\textsuperscript{13} ALAN DURNING, \textit{HOW MUCH IS ENOUGH?} 11 (1992).
\textsuperscript{14} See \textit{infra} Part III. A Pigouvian tax is a tax designed to internalize the full social costs of an activity, including pollution. See A.C. PIGOU, \textit{ECONOMICS OF WELFARE} 92-93 (4th ed. 1932).
\textsuperscript{15} See, e.g., \textit{VOLUNTARY SIMPLICITY: RESPONDING TO CONSUMER CULTURE} (Daniel Doherty & Amitai Etzioni, eds., 2003); DUANE ELGIN, \textit{VOLUNTARY SIMPLICITY} (1981).
without compromising high standards of living.\textsuperscript{16} Addressing consumption directly, however, has proven to be difficult because doing so often infringes on lifestyle choices.

To get a handle on the problem, it is helpful first to examine the effects of consumption on a more manageable scale. Taking all production inputs into account, the individual consumption of ordinary items can have surprisingly disproportionate environmental impacts. For instance, the production of one kilogram of beef in the United States requires an estimated 47,000 to 200,000 liters of water.\textsuperscript{17} Beef production is costly with respect to energy consumption as well, requiring 40 kilocalories of fossil energy inputs for every kilocalorie of beef protein produced for human consumption.\textsuperscript{18} Other consumer items also have resource requirements that are striking, but not immediately obvious. The production of gold used in a single wedding ring generates approximately three tons of toxic mining waste.\textsuperscript{19} The production of a liter of soda, taking raw materials and packaging into account, requires an average of five liters of water.\textsuperscript{20} And production of a cotton t-shirt requires nearly four pounds of fossil fuel and one-third of a pound of pesticides.\textsuperscript{21}

On a macroeconomic scale, the environmental costs of consumption quickly add up. Despite the decline of traditional manufacturing industries in the United States and the apparent transition to a service-based economy, material consumption has continued

\textsuperscript{16} See, e.g., HUNTER ET AL., supra note 5, at 68-77 (describing promises of technology in achieving sustainable development).
\textsuperscript{17} See David Pimentel and Marcia Pimentel, Sustainability of Meat-Based and Plant-Based Diets and the Environment, 78 AM. J. CLINICAL NUTRITION 660S, 662S (2003).
\textsuperscript{18} See id. at 661S. Broiler chicken production is far more energy efficient, requiring an input of four kilocalories of fossil energy for each kilocalorie of broiler protein produced. See id.
\textsuperscript{20} See id. at 94.
to rise. U.S. fossil fuel consumption has increased by over thirty percent since 1983. The average size of new homes in the United States has more than doubled since the 1950s, even as family size has declined. Larger homes translate into increased consumption of land, energy, and building materials such as lumber and concrete. And even with the exclusion of gaseous wastes such as carbon dioxide, the average American “produces twice his weight per day in household, hazardous, and industrial waste.”

In the developing world, particularly in China and India, resource consumption is increasing at an even faster pace. For instance, oil consumption in China is expected to rise by 97% by the year 2025, and in India by 78%. Already responsible for some 30% of the world’s coal consumption, China is expected to double its consumption of coal by 2025 in order to satisfy factories and consumers. Globally, the growth rate in the use of raw materials – including minerals, metals, wood, and synthetics – outpaced population growth between 1960 and 1995, even as the global economy shifted towards less material-intensive service industries. Much of this growth reflects the increasingly

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24 See id.


28 See WORLDWATCH INSTITUTE, supra note 19, at 10 (“Worldwide, between 1960 and 1995, world use of minerals rose 2.5-fold, metals use increased 2.1-fold, wood products 2.3-fold, and synthetics, such as plastics, 5.6-fold.”).
global reach of consumerism – the pursuit of higher standards of living through greater economic activity and expanded consumption.29

The extraction of raw materials, the manufacturing process, and the transportation, use, and disposal of consumed goods have serious, wide-ranging, and cumulative effects on the environment. Climate change is the most prominent example of the global environmental consequences of consumption. A wide range of human activities generate the greenhouse gas (GHG) emissions that cause climate change,30 but the leading sources are fossil fuel consumption and deforestation.31 Global efforts to control GHG emissions, however, thus far have made little headway. The Kyoto Protocol,32 the only treaty containing firm commitments to reduce GHG emissions, is widely recognized as inadequate.33 Kyoto’s limits apply only to industrialized signatories to the treaty, many of whom are struggling to meet their commitments.34 Overall GHG

29 See YIANNIS GABRIEL & TIM LANG, THE UNMANAGEABLE CONSUMER 13-16 (2d ed. 2006); cf STEVEN MILES, CONSUMERISM AS A WAY OF LIFE 4 (1998) (“while consumption is an act, consumerism is a way of life”).


31 See HUNTER ET AL., supra note 5, at 635-36 (discussing sources of greenhouse gases).


33 See, e.g., Michael Ilg, Environmental Harm and Dilemmas of Self-Interest: Does International Law Exhibit Collective Learning?, 18 TUL. ENVTL. L.J. 59, 70 (2004) (“A salient issue of the Kyoto Protocol’s success is whether a limited Annex I membership will continue to accept the idea of competing with the numerous countries that have not agreed to, or are not required to, reduce their CO2 levels. The Kyoto Protocol provides neither the mechanisms to ensure that they do, nor the incentives for inducing others to join the treaty.”); Christoph Böhringer & Carsten Vogt, Economic and Environmental Impacts of the Kyoto Protocol, 36 CANADIAN J. ECON. 475, 475 (2003) (“Kyoto more or less boils down to business-as-usual without significant compliance costs to ratifying parties.”); Lakshman Guruswamy, Climate Change: The Next Dimension, 15 J. LAND USE & ENVTL. L. 341 (2000) (noting the Kyoto Protocol’s failure to limit emissions from developing countries, disregard for research to find alternatives to fossil fuels, and prioritization of short-term environmental and economic gains over long-term solutions).

34 See Kyoto Protocol, supra note 32, art. 3, para. 1. Even in Western Europe, carbon dioxide emissions from fossil fuels have held steady – or even increased slightly – despite commitments under the Protocol to achieve an eight percent reduction in emissions from 1990 levels by the year 2012. See Energy Information Administration, International Energy Annual 2004, Table H.1co2 World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1980-2004 (2006),
emissions have continued to increase in recent years, thanks largely to emissions from the United States and China, two nations that have not agreed to emissions limits.³⁵

Anthropogenic GHG emissions are predicted to have severe and wide-ranging ramifications, particularly in the absence of prompt and drastic measures to reduce emissions and sequester GHGs. The expected consequences of climate change are well-catalogued, and will be described only briefly here. Those consequences, varying by region, include: rising ocean levels that may flood islands and other low-lying areas; more severe heat waves; more frequent droughts or floods; increased spread of infectious disease; extinction of significant numbers of plant and animal species; and other climatic changes that may reduce crop yields and threaten ecosystems on which humans depend.³⁶

Climate change is hardly the only environmental problem caused by current levels of consumption. Consumption can create environmental problems during all aspects of a product’s lifecycle: from the extraction of raw materials in environmentally destructive ways, through the generation of pollution during production and/or use, to the disposal of waste in the air, water, or landfills. Plastics provide one example: the annual production


of disposable plastic water bottles – 166 for each American – uses enough oil to fuel
100,000 cars for a year,\(^\text{37}\) contributing not only to climate change but also to toxic air
pollution. Plastic pellets used to manufacture trash bags and other plastic products are
spilled on the ground by the millions each day, often winding up in the oceans.\(^\text{38}\) These
pellets, which are the most commonly seen plastic debris in the world, absorb toxic
chemicals and become poison pills for fish, seabirds, and other marine life.\(^\text{39}\) So much
plastic debris has accumulated in the oceans that they now contain an estimated 46,000
pieces of plastic per square mile. One mass of such debris floating in the Pacific Ocean,
dubbed the “Eastern Garbage Patch,” is twice the size of Texas.\(^\text{40}\) Not only is plastic
waste unsightly and hazardous to marine life, but its chemical components may be
harmful to human health.\(^\text{41}\) Furthermore, competition for natural resources such as the
petrochemicals used to make plastics may contribute to social and political unrest,
economic dislocation, and wars.\(^\text{42}\) The unsustainability of current consumption suggests
that national economies are destined to face stark and dramatic adjustments in the
future.\(^\text{43}\)

Uneven patterns of consumption and the uneven distribution of its consequences
are also problematic. Western production and consumption processes, which rely heavily
on global trade, can exacerbate the inequitable distribution of the world’s wealth and

\(^\text{37}\) Kate Santich, Saving the Earth, One Water Bottle at a Time, ORLANDO SENTINEL, May 5, 2007, at D3.
A1.
\(^\text{39}\) See id.
\(^\text{40}\) See id.
\(^\text{41}\) See id.
\(^\text{42}\) See CNA Corporation, National Security and the Threat of Climate Change (2007),
http://securityandclimate.cna.org/report/ (predicting that climate change could heighten global tensions,
trigger massive migrations, and multiply threats of instability).
\(^\text{43}\) See GABRIEL & LANG, supra note 29, at 23.
natural assets.\textsuperscript{44} Notwithstanding the tangible benefits that trade can provide for developing countries, trade often involves the flow of inexpensive goods or raw materials from the South to feed consumption in the North. Such trade may foster Third World dependence on Western countries while doing little to promote long-term economic development.\textsuperscript{45} The globalization of trade also enables Western consumers to be shielded from the negative externalities generated by the production and disposal processes necessary to sustain high levels of consumption.\textsuperscript{46} Consumer electronics provide a prime example of the export of disposal problems, as used electronics containing toxic materials are often shipped abroad, where they may be dismantled under unsafe conditions, dumped in unlined landfills, or abandoned on the streets.\textsuperscript{47}

\textbf{B. Broader Implications of Consumption}

The ramifications of consumption extend beyond the environment to individual and social values. Consumption now dominates American culture so thoroughly that


\textsuperscript{45} See MILES, supra note 29, at 150.

\textsuperscript{46} See WORLDWATCH INSTITUTE, supra note 19, at 144 (noting “tendency of today’s global economy to insulate consumers from the various negative impacts of their purchases by stretching the distance between different phases of a product’s lifecycle—from raw material extraction to processing, use, and finally disposal”); see also James Fallows, China Makes, the World Takes, ATLANTIC MONTHLY, July/Aug. 2007, at 48, 50, 68-69 (discussing problems of pollution and alleged slave labor in China, and noting that small proportion of price paid by Americans for goods made in China actually stays in China).

\textsuperscript{47} See, e.g., Bill Lambrecht, Pollution Piles Up in Africa Courtesy of Discards from America, ST. LOUIS POST-DISPATCH, Dec. 18, 2006, at A1 (describing export of electronic waste from United States to Africa, where recycling and disposal often take place under dangerous conditions); Laurie J. Flynn, Poor Nations Are Littered With Old PC’s, Report Says, N.Y. TIMES, Oct. 24, 2005, at C5; cf, Lydia Polgreen, Neglect and Fraud Blamed for Toxic Dumping in Ivory Coast, N.Y. TIMES, Nov. 24, 2006, at A14 (discussing dumping in Ivory Coast of tons of toxic petrochemical waste originating from Europe, resulting in ten deaths and widespread illness).
consumerism is sometimes described as “the religion of the late twentieth century.”

Historian Gary Cross theorizes that consumerism – “the belief that goods give meaning to individuals and their roles in society” – emerged as the predominant twentieth century ideology because it “concretely expressed the cardinal political ideals of the century – liberty and democracy.” Although such views are open to debate, there is no denying the central role of consumption in Western society today. Shopping is the most popular pastime of many Americans. No longer confined to retail strips and shopping malls, shopping is virtually ubiquitous, appearing in airports, national parks, places of worship, and every home with cable TV or internet access. The American Psychiatric Association is even considering whether to list compulsive buying – which afflicts somewhere between 1.8% and 16% of the adult U.S. population – as a mental disorder.

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48 MILES, supra note 29, at 1; see also David R. Loy, The Religion of the Market, 65 J. AM. ACAD. OF RELIGION 275, 275-76 (1997) (“our present economic system should also be understood as our religion, because it has come to fulfill a religious function for us”).


50 See MILES, supra note 29, at 8 (suggesting that consumerism emerged as a way of life for the majority of the population of the developed world after World War II as consumer goods and consumer credit became widely available); Russell W. Belk, Materialism: Trait Aspects of Living in the Material World, 12 J. CONSUMER RES. 265, 265 (1985) (noting historians’ agreement that modern consumption “has achieved an elevated and revered place in industrial and post-industrial life”); Sheldon Solomon et al., Lethal Consumption : Death-Denying Materialism, in PSYCHOLOGY AND CONSUMER CULTURE: THE STRUGGLE FOR A GOOD LIFE IN A MATERIALISTIC WORLD 127, 129 (Tim Kasser & Allen D. Kanner eds., 2004) (“obsessive superfluous consumption now permeates all levels of American society, creating a culture of mindless greedy acquisitiveness”).

51 See DURNING, supra note 13, at 132 (reporting that 93% of American teenage girls surveyed in 1987 deemed shopping their favorite pastime); JULIET B. SCHOR, THE OVERWORKED AMERICAN: THE UNEXPECTED DECLINE OF LEISURE 107 (1991) (describing shopping as “the most popular weekday evening ‘out-of-home-entertainment’”).

52 See SCHOR, supra note 51, at 107-08 (describing how shopping “is permeating the entire geography”).


54 See Shankar Vedantam, Some Psychiatrists See ‘Shopaholic’ As a Diagnosis, WASH. POST, Oct. 13, 2006, at A1 (reporting that compulsive buying may lead to financial trouble, marital and family strains, and interference with work).
The more extreme cases aside, it is worth asking whether current levels and patterns of consumption are problematic for consumers themselves or for society at large. For conventional economists and free market advocates, the answer is largely “no.” Under their “rational choice” model, which is explored in more detail later in this Article, the ability to make consumption choices in the marketplace is a pivotal freedom enjoyed by citizens in a democratic society. Arguably, consumerism has enabled Americans to establish new identities and created “opportunities for participation that transcended suffrage rights or political ideologies.” This model pays little heed, however, to the consequences of increased consumption and its constant promotion by government, industry, and the media on social mores and individual values.

While society should provide some support for the satisfaction of needs and wants, it is hard to imagine the case for materialistic traits that consumerism fosters, such as greed, selfishness, and envy. As suggested by studies finding little correlation between material wealth and happiness, high consumption does little to satisfy deeper human needs and may even subvert them. People who hold materialistic values tend to report experiences, feelings, and behaviors associated with a lower quality of life.

55 See infra Part II.A.
56 See CROSS, supra note 49, at 11 (noting that “[e]conomists often insist that individual liberty is identical with the subjective desires of consumers”).
57 Id. at 2.
58 See Belk, supra note 50, at 266 (suggesting that such traits can be pathological); see also Russell W. Belk, Materialism and You, J. RES. FOR CONSUMERS, Issue 1, at 4 (2001) (online journal) (distinguishing between consumption and materialism in that the latter “goes beyond mere consumption and implies excessive, perhaps obsessive, and more than likely overly expectant consumer desire”).
59 See Bruno S. Frey & Alois Stutzer, What Can Economists Learn from Happiness Research?, 40 J. ECON. LIT. 402, 413 (2002) (reporting on studies finding that average happiness levels in Western countries have stayed constant or declined in recent decades despite rising per-capita income levels); Tim Jackson, Live Better by Consuming Less?, 9 J. INDUS. ECOLOGY 19, 23-24 (2005) (describing similar studies, as well as studies finding that some of the poorest countries in the world are among the happiest).
60 See Tim Kasser et al., Materialistic Values: Their Causes and Consequences, in PSYCHOLOGY AND CONSUMER CULTURE, supra note 50, at 11, 19. As one researcher notes, “[i]t is uncertain whether
are also more likely to engage in anti-social behaviors and hold attitudes damaging to society.\(^{61}\) The emphasis of private consumption over public consumption – the use of private cars rather than public transit being an obvious example – promotes social isolation rather than community bonds.\(^{62}\) The pressure to work and earn money for consumption leaves less time to devote to social or civic activities. And despite rising consumption, social indicators such as poverty, teenage suicide, lack of health insurance coverage, and income inequity, have all increased over the past thirty years.\(^{63}\)

Consumerism can undermine democratic institutions by supplanting political choices with consumer choices and may help explain the decline in participation in civic activities and democratic institutions in the United States.\(^{64}\) The emphasis on consumption undermines notions of individual responsibility and social solidarity necessary to a vibrant political democracy.\(^{65}\) For the average American, liberty has been transformed, at least in part, from a political concept encompassing civic freedoms and obligations into an economic concept in which purchasing decisions, made under the banner of consumer sovereignty, represent the primary means of participating in collective discourse.\(^{66}\)

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\(^{61}\) See Kasser et al., supra note 60, at 22.
\(^{62}\) See Belk, supra note 58, at 7.
\(^{63}\) See WORLDWATCH INSTITUTE, supra note 19, at 18.
\(^{64}\) See Robert Putnam, Bowling Alone: America’s Declining Social Capital, J. DEMOCRACY, Jan. 1995, at 65, 66-70 (surveying trends of declining civic engagement, including reduced voter turnout, reduced participation in public meetings and partisan political activities, and reduced membership in religious organizations, labor unions, and civic and fraternal organizations).
\(^{65}\) See GABRIEL & LANG, supra note 29, at 10. The tradeoff in which workers obtained greater material enjoyment in exchange for alienation and loss of autonomy in the workplace is sometimes described as the “Fordist Deal.”
\(^{66}\) See CROSS, supra note 49, at 3 (“In the context of consumerism, liberty is not an abstract right to participate in public discourse or free speech. It means expressing oneself and realizing personal pleasure in and through goods.”); GABRIEL & LANG, supra note 29, at 176 (summarizing the perspective that “[t]he
C. The Difficulty of Addressing Consumption Head-On

Tackling the problems posed by consumption quickly entangles one in questions of lifestyle choices and equity. For all humans—indeed, for all living things—consumption is necessary for life. Distinguishing between basic needs and less urgent wants requires a consideration of values and norms that seems unlikely to produce general agreement.67 And even if such distinctions could readily be made, few would be willing to agree that consumption to satisfy wants, as opposed to needs, necessarily amounts to overconsumption. The concept of sustainability suggests one possible approach, but provides no easy answers.68 As Jim Salzman has observed, “sustainable consumption’s ultimate objective remains indistinct, blurred by disagreement over appropriate measures, issues of international and intergenerational equity, and most important, implications on individual lifestyles.”69

Settling on a precise definition of sustainability, however, is not a prerequisite to recognizing the problems posed by consumption. As the preceding discussion illustrates, current consumption practices are causing serious environmental degradation, and upward consumption trends portend further damage, scarcity, conflict, and perhaps catastrophe. This Article begins from this premise and looks towards virtual worlds as a potential weapon for combating consumption’s contributions to these problems.

68 See, e.g., ERIC T. FREYFOGLE, WHY CONSERVATION IS FAILING AND HOW IT CAN REGAIN GROUND 113-43 (2006) (arguing that concept of sustainability can be defined so inclusively and in so many ways as to make it meaningless).
69 Salzman, supra note 11, at 1255. Salzman provides a rough definition of “sustainable consumption” as “a level of consumption which causes a level of environmental impact over time that does not degrade basic ecosystem services . . . .” Id. at 1246.
II. Theories of Consumption

Consumption to fulfill basic needs such as food, clothing, and shelter requires no explanation. In the developed world, however, only a small fraction of consumption is for basic survival. Decisions to consume often reflect a determination that the item being consumed will be of use in some way other than merely enabling survival. Countless innovations and products make life less dangerous, more convenient, and more pleasant than it otherwise would be. Yet as sociologists, anthropologists, and psychologists remind us, functionality is not the only (or even the main) reason for much consumption. Consumption often involves an attempt to satisfy nonmaterial needs – such as affection, participation, relationship, and understanding – through material means. Furthermore, various motivations for consumption may be at work in any particular instance. This Part lays the groundwork for analyzing virtual consumption as a substitute for real consumption by reviewing the leading explanations for consumption. Although each explanation has its limitations, these accounts collectively do provide a relatively complete picture of why people consume.

A. Rational Choice Theory: Satisfaction of Wants

Rational choice theory, rooted in conventional economics, interprets consumption as an attempt to maximize personal utility. We consume, in other words, to satisfy individual wants. What is the nature of these wants, and where do they come from?

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70 Cf. GABRIEL & LANG, supra note 29, at 46-47 (summarizing critiques of concept of use-value).
71 See infra Part II.C, D.
72 See Jackson, supra note 59, at 25.
73 See id. at 20 (noting “superabundance” of possible explanations for consumption).
74 See id. at 21-22 (discussing views of various economists).
Rational choice theory generally assumes that wants are infinite.\textsuperscript{75} This assumption is an oversimplification, however, for it fails to explain differences in consumption between and among cultures and in different eras.\textsuperscript{76} Nor does it account for selfless or sharing behavior, or for differences in individual consumption patterns.\textsuperscript{77} As to the sources of wants, conventional economics generally assumes that consumers enter the market with inherent wants unaffected by social interactions or economic institutions.\textsuperscript{78} Consistent with this view, one might attribute the infinite and inherent wants of rational choice theory to evolutionary forces; or as Thomas Hobbes might have put it, consumption is simply part of human nature.\textsuperscript{79} Although certain aspects of consumer behavior, in particular its competitive and symbolic aspects, do appear to be rooted in instinctive behavior,\textsuperscript{80} rational choice theory ultimately does not provide a satisfactory account of where human wants come from.\textsuperscript{81}

If one nevertheless accepts the desire to consume as inherent, one can view the proliferation of consumer goods and opportunities to consume as a positive development. In this account, consumption promotes human freedom by enabling individuals to satisfy their intrinsic desires.\textsuperscript{82} Rational choice theory’s descriptive account of human wants, in other words, becomes the normative concept of consumer sovereignty, which holds social

\textsuperscript{75} See id. at 22.
\textsuperscript{76} See COLIN CAMPBELL, THE ROMANTIC ETHIC AND THE SPIRIT OF MODERN CONSUMERISM 39 (1987) (noting that in nonliterate and pre-industrial societies, consumption is governed primarily by custom and involves a fixed notion of wants).
\textsuperscript{77} See Jackson, supra note 59, at 26.
\textsuperscript{78} See id. at 21; Frank Ackerman, Foundations of Economic Theories of Consumption: Overview Essay, in THE CONSUMER SOCIETY 149, 150 (Neva R. Goodwin et al. eds., 1997).
\textsuperscript{79} See Jackson, supra note 59, at 26; Ackerman, supra note 78, at 150.
\textsuperscript{80} See Jackson, supra note 59, at 26-27.
\textsuperscript{81} See CAMPBELL, supra note 76, at 40.
\textsuperscript{82} See MILTON FRIEDMAN & ROSE FRIEDMAN, FREE TO CHOOSE 65 (1980) (“An essential part of economic freedom is freedom to choose how to use our income.”).
welfare to be maximized through consumers’ pursuit of their preferences.\textsuperscript{83} In a very concrete way, the consumption of modern conveniences has liberated us from the drudgery of time- and labor-intensive everyday tasks.\textsuperscript{84} Moreover, the freedom to exercise consumption choices can also serve as a means of liberation from the constraining norms of closed communities.\textsuperscript{85} Building on the assumption of infinite human wants, economic theory has essentially accepted the merits of consumption as an end in and of itself.\textsuperscript{86} Adam Smith’s \textit{Wealth of Nations}, for instance, proclaimed that increasing individual consumption is – and ought to be – the primary goal of economic activity.\textsuperscript{87} Under this view, business simply has a supporting role in responding to consumer demand and providing information, through advertising, for rational consumers to exercise choices in the marketplace.\textsuperscript{88}

Conventional economists argue that consumption benefits society at large, and not just the individual, because it drives economic growth and enables society to avoid excessive unemployment.\textsuperscript{89} This view is not limited to academia, but has long served as

\textsuperscript{83} For a brief account of the consumer sovereignty model, see Doug Kysar, \textit{The Expectations of Consumers}, \textit{103 Colum. L. Rev.} 1700, 1747-49 (2003).

\textsuperscript{84} See Mary Douglas, \textit{The Consumer’s Revolt}, in \textit{The Consumption Reader} 144, 144 (David V. Clarke et al. eds., 2003).

\textsuperscript{85} See \textit{id.} (contending that the freedom to consume empowers individuals to depart from community norms of attire, behavior, and lifestyle).

\textsuperscript{86} See Gabriel & Lang, \textit{supra} note 29, at 40 (noting that political economists of the New Right celebrate choice as an end in its own right).

\textsuperscript{87} See Ackerman, \textit{supra} note 78, at 150-51; Adam Smith, \textit{An Inquiry Into the Nature and Causes of the Wealth of Nations} 625 (1937) [Book IV Chapter VIII] (“Consumption is the sole end and purpose of all production and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer.”). Smith was nevertheless critical of the human fascination with “baubles and trinkets” and of the belief that wealth equates to happiness. See Joyce Appleby, \textit{Consumption in Early Modern Social Thought}, in \textit{The Consumption Reader}, \textit{supra} note 84, at 31, 36.

\textsuperscript{88} See David B. Clarke et al., \textit{Introduction to Part Three}, in \textit{The Consumption Reader}, \textit{supra} note 84, at 135; John Kenneth Galbraith, \textit{The Affluent Society} 143 (1958) (describing the two basic propositions on which the theory of consumer demand rests as “that the urgency of wants does not diminish appreciably as more of them are satisfied” and “that wants originate in the personality of the consumer”).

a bedrock principle of American economic policy. President Bush’s admonition, in the wake of the 9/11 terrorist attacks, that Americans should go shopping in order to keep the wheels of the economy turning, reflects this upbeat view of consumption.

The concept of consumer sovereignty should not go unquestioned, however. For many economists, observed consumption behavior is the most reliable evidence of individual preferences; any inquiry into the origins of those preferences is both unnecessary and unproductive. The assumption that individual consumer preferences are endogenous expressions of personal autonomy, however, oversimplifies matters. Individual decisions to consume are undoubtedly affected by marketing, advertising, and other exogenous forces that create, shape, and change consumer desires. Furthermore, individual decisions take place within a context of, and are limited by, structural, market, and economic constraints. Consumers simply do not have the unlimited options, information, and resources that genuine consumer sovereignty would seem to require. Finally, studies finding little relationship between material wealth and satisfaction call into doubt the assumption that welfare is maximized by maximizing the satisfaction of consumer demand. People, it seems, are more than rational maximizers of utility.

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90 See DURING, supra note 13, at 29-30 (noting that beginning in the 1920s, “[t]he ‘democratization of consumption’ became the unspoken goal of American economic policy”); ALAN SCHNAIBERG, THE ENVIRONMENT: FROM SURPLUS TO SCARCITY 92-93 (1980) (arguing that “the major institutions of modern society are ‘addicted’ to economic growth and treadmill expansion”).

91 See Judy Keen, Bush Routine to Include New Safety Steps, USA TODAY, Sept. 17, 2001, at 10A (reporting that President Bush urged “the good people of America go back to their shops”).

92 See Jackson, supra note 59, at 21-22; id. at 24 (“modern economics is curiously reticent on the subject of needs, preferring . . . to cash out consumer choice in the language of wants or preferences”).

93 See id. at 23. One study demonstrating the power of branding found a marked taste preference among preschool-age children for foods wrapped in McDonald’s packaging over the exact same foods wrapped in plain packaging. See Nicholas Bakalar, If It Says McDonald’s, Then It Must Be Good, N.Y. TIMES, Aug. 14, 2007, at F7.

94 See GABRIEL & LANG, supra note 29, at 35.
B. Consumption as Manipulation

A leading critique of consumer sovereignty, voiced by thinkers as diverse as Jean Jacques Rousseau and John Kenneth Galbraith, comprehends consumption not as the fulfillment of intrinsic preferences, but rather as the product of manipulation.95 Both the consumer sovereignty model and the manipulation critique view consumption as the fulfillment of human needs through commercial transactions.96 The manipulation critique, however, proposes very different origins of those needs, contending that many of those needs are generated artificially by industry.97 Industry’s tools for stimulating consumption include product design, marketing, and advertising. Planned obsolescence, the intentional design of products with limited lifespans, generates a steady demand for new or updated products.98 Marketing of products on the basis of superficial differentiations in design misleads consumers into making excessive purchases or paying inflated prices.99 Advertising manipulates consumers into purchasing items that they might otherwise have rejected or ignored.100 And even where advertising is not directly

95 See Jackson, supra note 59, at 24; Galbraith, supra note 88, at 158 (“As a society becomes increasingly affluent, wants are increasingly created by the process by which they are satisfied.”); see also Schnaiberg, supra note 90, at 176-78 (noting that much advertising “is aimed at restructuring consumer perceptions of self and need toward passive consumption of comfort-producing goods and away from stimulating activities”).
96 See Kysar, supra note 83, at 1757.
97 See Robert H. Frank, Choosing the Right Pond: Human Behavior and the Quest for Status 184 (1985); Galbraith, supra note 88, at 158 (“The fact that wants can be synthesized by advertising, catalyzed by salesmanship, and shaped by the discreet manipulations of the persuaders shows that they are not very urgent.”).
99 See Miles, supra note 29, at 43 (describing critique of design); see also Colin McDowell, The Designer Scam 3 (1994) (criticizing fashion industry’s efforts to convince consumers that fashions are necessities).
100 See Galbraith, supra note 88, at 155-56 (arguing for importance of advertising in creating wants); Mark Paterson, Consumption and Everyday Life 26 (2006); Ackerman, supra note 78, at 149 (suggesting that the simplifying assumption that tastes are exogenous, or determined outside the realm of economics, bears little resemblance to reality); Miles, supra note 29, at 49 (highlighting role of design in process of stimulating consumer desire).
manipulative, it often omits information about product risks and about negative environmental consequences of production and use.  

The manipulation critique posits that the mass consumption generated through these techniques serves industry first, and the consumer second. Consumption plays a pivotal role in both sustaining and relying on economic growth in a “treadmill of production.”  

Taking the manipulation critique theory one step further, sociologists from the Frankfurt School posit that the promotion of artificial needs serves as a mechanism of social control by diverting attention from difficult political issues.  

Popularized in the 1950s in attacks on increasingly sophisticated advertising techniques, the manipulation critique nicely highlights the economic and political forces that drive consumption. The critique, however, tends to overlook the concrete benefits of growth, the symbolic aspects of consumption, and individuals’ ability to resist manipulation. Consumers can and do weigh competing product claims, and they use various sources of information to decide whether to buy a particular product. Structural constraints nevertheless do limit individual choices and can complicate efforts to reduce consumption.  

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101 See Schnaiberg, supra note 90, at 187-88.
102 Schnaiberg, supra note 90, at 417 (describing treadmill of production as “structured by the nature of competition between capital owners and the profitability and predictability of high-energy and capital-intense mass production” and “buttressed by the commitment of both organized labor and the state to generate employment and income through rising national production”); see also id. at 167-68 (contending that the current economic structure relies on maintaining or increasing aggregate levels of consumption).
103 The Frankfurt School refers to a group of German intellectuals, including Theodor Adorno, Max Horkheimer, and Herbert Marcuse, associated with the Institute for Social Research at the University of Frankfurt. See John Storey, Cultural Consumption and Everyday Life 19 (1999).
104 See Paterson, supra note 100, at 27; Storey, supra note 103, at 19-20 (discussing Herbert Marcuse’s theory of consumerism as a mechanism of social control).
105 See Gabriel & Lang, supra note 29, at 113 (describing evolution of theory of consumer as victim).
106 See Paterson, supra note 100, at 29.
107 See Frank, supra note 97, at 184-85.
108 See Jackson, supra note 59, at 29.
Americans. The lack of convenient public transit is itself a consequence of historical and contemporary decisions about zoning, highway construction, tax policy, and the like – decisions beyond the power of the ordinary individual to change or affect through consumption choices.

C. Consumption as Communication and Identity

Rational choice theory and the manipulation critique focus on economic drivers of consumption. Other theories of consumption rest more on psychological, social, and cultural factors. Here, consumption occurs not so much because of the intrinsic functional qualities of an item, but rather because of extrinsic values assigned to objects of consumption by society, social subgroups, or individuals.

Consumption is often an act of communication. What we consume can say a great deal about who we are: the car one drives, the neighborhood one lives in, the clothes one wears, and the leisure activities one pursues all serve as markers of one’s identity. Anthropologists such as Mary Douglas have long observed that goods tell stories and function as a critical mode of communication within a culture. In anonymous urban environments, consumption behavior provides a quick, readily

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109 See Schnaiberg, supra note 90, at 181-82.
110 See id.
111 See Jackson, supra note 59, at 30 (surveying various literatures indicating that “material commodities are important to us, not just for what they do, but for what they signify . . . both to others and to ourselves”).
112 Mary Douglas & Baron Isherwood, The World of Goods 95 (1979) (noting that understanding of dual role of goods “in providing subsistence and in drawing the lines of social relationships” is “practically axiomatic amongst anthropologists”); id. at 56-70, 95 (“Man needs goods for communicating with others and for making sense of what is going on around him.”); see also Pierre Bourdieu, Distinction: A Social Critique of the Judgement of Taste 2 (1984) (“Consumption is . . . a stage in a process of communication, that is, an act of deciphering, decoding, which presupposes practical or explicit mastery of a cipher or code.”); Storey, supra note 103, at 42-43.
observable, and increasingly important way to communicate.\footnote{113 See PATERSON, supra note 100, at 21; FRANK, supra note 97, at 15 (suggesting that a person’s incentives to spend money on observable goods will be inversely related to the amount and reliability of independent information other people have about his abilities).} Professor Tim Jackson has summarized: “We consume in order to identify with a social group, to position ourselves within that group, to distinguish ourselves with respect to other social groups, to communicate allegiance to certain ideals, and to differentiate ourselves from certain other ideals.”\footnote{114 Jackson, supra note 59, at 31; cf. JOHN URRY, THE TOURIST GAZE 149 (1990) (“Malls represent membership of a community of consumers.”).} Rather than being a form of manipulation, consumption becomes a means by which individuals choose and express identity.\footnote{115 See MIKE FEATHERSTONE, CONSUMER CULTURE AND POSTMODERNISM 86 (1991) (“The modern individual within consumer culture is made conscious that he speaks not only with his clothes, but with his home, furnishings, decoration, car and other activities which are to be read and classified in terms of the present and absence of taste.”).} In common with the rational choice theory of consumption, consumption as identity is a mostly positive account that stresses the individual freedom that consumption enables.

Thorstein Veblen’s theory of conspicuous consumption sets forth a less glowing account of consumption as communication and identity.\footnote{116 See PATERSON, supra note 100, at 19.} Veblen, whose work focused on the bourgeois leisure class, contended that the purchase and display of expensive commodities is an important means of establishing or demonstrating status in society.\footnote{117 See Thorstein Veblen, Pecuniary Emulation, in THE CONSUMPTION READER, supra note 84, at 233-34.} While some consumption involves subsistence or physical comfort, most consumption, according to Veblen, is driven by the desire to make “invidious distinctions.”\footnote{118 Id. at 234.} Property, in short, serves as a basis of popular esteem, class differentiation, and self-respect.\footnote{119 Id. at 236.} Consumption of particular goods may signal not only one’s social class, but also one’s ability.\footnote{120 See FRANK, supra note 97, at 149-50, 153.} Positional goods such as a fashionable luxury car and custom-
tailored suits, for instance, proclaim to the world that its owner must be a successful lawyer, doctor, or businessman.\textsuperscript{121}

To explain changing consumption patterns and ever-rising consumption levels, Georg Simmel expanded on Veblen’s theory and suggested a dynamic of social emulation.\textsuperscript{122} As the middle and lower classes emulate the consumption practices of the wealthy, the upper classes in turn consume even more luxurious items to distinguish themselves from the rest of society, prompting the masses in turn to seek out the newly luxurious items.\textsuperscript{123} Indeed, all positional goods – goods that signify ability, social status, or power – are subject to the same dynamics of escalation.\textsuperscript{124}

One difficulty with models of social emulation is that they assume consensual hierarchies of taste that move from top to bottom. Modern societies, however, are characterized by diverse groups that have different tastes and that may consciously choose to distinguish themselves from the elite.\textsuperscript{125} Furthermore, theories that explain consumption in terms of communication are incomplete in that they do not account for private consumption that has no communicative role.

One possible function that private consumption can serve is to fashion one’s self-image. Consumption, in other words, can be a means of affirming to oneself, and not just to others, that one’s existence has value and meaning. One version of this explanation,

\begin{itemize}
\item \textsuperscript{121} See id. at 149-50, 153.
\item \textsuperscript{123} See \textit{Paterson}, supra note 100, at 19-20. Critics of this theory note that social emulation may occur in multiple directions (and not just in the direction of the rich and powerful). See \textit{Storey}, supra note 103, at 6.
\item \textsuperscript{124} See \textit{Jackson}, supra note 59, at 27.
\item \textsuperscript{125} See \textit{Storey}, supra note 103, at 42 (summarizing Colin Campbell’s criticism of emulation theory).
\end{itemize}
based on terror management theory,\textsuperscript{126} posits that the awareness of mortality leads to the pursuit of death transcendence through consumption.\textsuperscript{127} Bluntly put, “possession and consumption are thinly veiled efforts to assert that one is special and therefore more than just an animal fated to die and decay.”\textsuperscript{128} Although this account does not explain why one might turn to consumption, as opposed to relationships or religion, to cope with the fear of death,\textsuperscript{129} it does seem to explain at least some nonessential consumption across a range of cultures and historical periods.\textsuperscript{130}

\textbf{D. Pursuit of Pleasure and Experience}

To some degree, unprecedented levels of consumption reflect the ascendancy of a hedonistic moral philosophy centered on the nonutilitarian qualities of commodities.\textsuperscript{131} In other words, consumption of even ordinary household goods may involve the pursuit of pleasure and exercise of the imagination. This theory of consumption recognizes that everyday objects often have both use value and aesthetic value,\textsuperscript{132} and that the process of searching for and acquiring an item can itself be pleasurable.

\textsuperscript{126} Terror management theory explains human culture as a response to the “overwhelming terror” created by “the juxtaposition of the basic biological inclination toward self-preservation common to all living things with the uniquely human awareness of death.” Solomon et al., \textit{supra} note 50, at 132.

\textsuperscript{127} \textit{See id.} at 128.

\textsuperscript{128} \textit{Id.} at 134; cf. \textsc{Tennessee Williams}, \textsc{Cat on a Hot Tin Roof} 91 (New Directions Books 1975) (1954) (“The human animal is a beast that dies and if he’s got money he buys and buys and buys and I think the reason he buys everything he can buy is that in the back of his mind he has the crazy hope that one of his purchases will be life ever-lasting.”).


\textsuperscript{130} \textit{See} Jamie Arndt et al., \textit{The Urge to Splurge: A Terror Management Account of Materialism and Consumer Behavior}, 14 \textit{J. CONSUMER PSYCH.} 198, 203-04 (2004).

\textsuperscript{131} \textit{See} Gabriel & Lang, \textit{supra} note 29, at 97 (“[Consumerism] celebrates the diversity of pleasures to be obtained from commodities, proposing such pleasures as realistic, attainable goals of everyday life.”).

\textsuperscript{132} The popular line of products designed by architect Michael Graves for the retailer Target makes this point. \textit{See} Reinhardt Krause, \textit{Following Form and Function: Blueprint for Success: Michael Graves Brings High Design to the Masses}, \textsc{Investor’s Bus. Daily}, Aug. 5, 2004, at A03.
Consumers’ relationships with objects, sociologist Colin Campbell contends, follow a cycle of romanticization: desire for an object is expressed through pursuit in the marketplace and consummated through acquisition and use, but is then followed by disillusionment and later by renewed desire for new objects.\textsuperscript{133} Such “consumer hedonism” is a particularly compelling explanation for the phenomenon of fashion, which provides consumers with a steady stream of novel products and styles that serve as a medium for daydreaming.\textsuperscript{134} Indeed, the theory builds on both consumer sovereignty theory and the manipulation critique by providing a psychological account of how consumer preferences change and are changed. Because the consumer economy depends on the stoking of the unending desire to consume, the act of consumption is by design rarely fulfilling in any lasting way.\textsuperscript{135} Ultimately, Campbell’s theory is a powerful explanation that “accounts for certain qualities of contemporary consumption; the thrill we get when we acquire an object we like, our insistence of what we like and what we do not like, and our ability to derive pleasure, thrills, and fun out of seemingly disagreeable experiences.”\textsuperscript{136}

A related psychological explanation for consumption involves curiosity – the desire to encounter new pleasures and experiences.\textsuperscript{137} Here, a “new” item is valued not because it is pristine or because it can fulfill a given need more efficiently, but rather because it represents a novel experience.\textsuperscript{138} The consumer is an explorer of goods and marketplaces: whether browsing through a mail-order catalog, bargain-hunting at a

\textsuperscript{133} See Campbell, supra note 76, at 90.
\textsuperscript{134} See id. at 92-94.
\textsuperscript{135} See Miles, supra note 29, at 152-53.
\textsuperscript{136} Gabriel & Lang, supra note 29, at 111.
\textsuperscript{137} See Gabriel & Lang, supra note 29, at 67.
\textsuperscript{138} See Campbell, supra note 122, at 55.
shopping mall, or wandering through other “cathedrals of consumption” such as amusement parks and tourist resorts.\textsuperscript{139} Even more exotic opportunities for exploration are now readily available through the Internet.\textsuperscript{140} The exploratory aspect of consumption involves not only the drawing of distinctions between products and the discernment of what’s new, but also the interaction with objects after they are purchased.\textsuperscript{141}

The consumer hedonist model and consumer as explorer model capture much of the restless and insatiable qualities of modern consumption. Both theories, however, explain only a portion of consumption, failing to account for such phenomena as brand loyalty.\textsuperscript{142} These theories have also been criticized as resting on peculiarly middle-class assumptions, and for interpreting the consumptive act as more meaningful and interesting than it often is.\textsuperscript{143} Nonetheless, many consumer behavior researchers find imagination and daydreams to be a more compelling explanation for consumption than classical economics’ model of rational economic actors.\textsuperscript{144}

III. Tools to Address Consumption

Despite the growing awareness of the environmental consequences of consumption, consumption is largely unaddressed by the law. This is not for an absence of proposals. This Part provides a brief overview of possible tools for reducing

\textsuperscript{139}See GABRIEL & LANG, supra note 29, at 70-71. Sociologist George Ritzer uses the term “cathedrals of consumption” to indicate the quasi-religious, enchanted qualities of shopping malls and other sites of commerce. \textit{See id.}
\textsuperscript{140} See \textit{id.} at 65 (noting that such exploratory possibilities are not limited to shopping).
\textsuperscript{141} See \textit{id.} at 73.
\textsuperscript{142} See \textit{id.} at 76 (observing that modern consumption often involves repeated encounters with familiar brands, such as McDonald’s).
\textsuperscript{143} See \textit{id.} at 76-77; \textit{id.} at 105 (“It would be bizarre to envisage a single mother shopping for her weekly groceries as lost in a reverie of pleasure.”).
consumption or its environmental impacts. Serious political and practical barriers to the enactment and implementation of many of these proposals, however, highlight the need for new and creative alternatives for addressing consumption.

A. Producer-Oriented Measures

Laws to reduce consumption or its negative impacts have focused primarily on manufacturers rather than consumers. Pollution laws, for example, may require the installation of pollution controls or restrict the volume or concentration of pollutants in the wastestreams that manufacturers discharge into the environment. A few laws, such as vehicle fuel economy standards, move beyond wastestream regulation into constraining product design.145 Producer-oriented measures also include the use of mechanisms to ensure that pricing incorporates full environmental costs. For instance, taxes may be used to reduce the consumption of manufacturing inputs particularly damaging to the environment. Such charges have been levied on lead in gasoline, sulfur in fuel, waste oil, pesticides, plastics, packaging materials, and chlorofluorocarbons.146 Economically inefficient consumption can also be reduced by eliminating subsidies that promote overexploitation of resources by producers.147

Producer-oriented measures also may involve the redesign or refinement of production processes to reduce energy and raw material needs.148 Life cycle analysis – an analysis of the full environmental impacts of a product, from the extraction of raw

145 See Salzman, supra note 11, at 1261-62 (discussing laws mandating product performance or product content).
material inputs to disposal of the used good\textsuperscript{149} – can play an important role in informing industry choices. Although such efforts are sometimes undertaken in response to pressure from government agencies or interest groups, they also may arise out of self-interest.\textsuperscript{150} As many corporations have discovered, greater efficiency in energy use, resource use, and waste generation often makes economic sense.\textsuperscript{151}

Extended Producer Responsibility (EPR) initiatives exemplify such efforts to encourage a full accounting of environmental impacts.\textsuperscript{152} Voluntary EPR programs involving take-back and reconditioning of used products are in place at major corporations such as Xerox and DuPont,\textsuperscript{153} while legislated measures include bottle bills and electronic waste recycling programs.\textsuperscript{154} Such programs not only can divert waste away from landfills, but also can promote reuse, recycling, and environmentally friendly design of products and packaging.\textsuperscript{155} Advocates of such programs concede, however, that EPR take-back laws primarily address how consumption occurs and “have little impact on how much we consume.”\textsuperscript{156} Indeed, the same can be said of almost all

\begin{flushleft}
\textsuperscript{150} See, e.g., Jacquie Burgess, \textit{Sustainable Consumption: Is It Really Achievable?}, CONSUMER POLICY REV., May/June 2003, at 78, 81 (describing program in which nonprofit organization works with senior management of major companies in reducing consumption of natural resources, including waste, energy, and water). \\
\textsuperscript{151} See \textit{Super Recycling}, BUS. WEEK, Dec. 18, 2006, at 102 (noting increasing appeal of remanufacturing used goods, given high material and energy costs); Olga Kharif, \textit{Earth’s Best Friend: Corporate America?} BUSINESS WEEK ONLINE, May 1, 2003, http://www.businessweek.com/technology/content/may2003/te2003051_4006_te108.htm?chan=search (“Corporations have found that environmentally friendly technologies often allow them to eliminate waste and lower manufacturing costs, thus improving their financial performance.”). \\
\textsuperscript{152} See Salzman, \textit{supra} note 11, at 1270. \\
\textsuperscript{153} See \textit{id.} at 1290-91. \\
\textsuperscript{155} See Salzman, \textit{supra} note 11, at 1274. \\
\textsuperscript{156} \textit{Id.} at 1280.
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producer-oriented measures. If real changes are to occur, consumer-oriented measures must be considered as well.157

B. Consumer-Oriented Measures

Initiatives to address consumption at the level of the individual consumer have been far more sporadic than measures aimed at manufacturers.158 The notion of consumer sovereignty has become deeply entrenched in American culture, making any proposal that might impinge upon it politically problematic.159 Such measures challenge lifestyles, norms, and popular conceptions of liberalism and individual freedom.160 Thus, it is unlikely that laws that directly prohibit consumption of luxury goods – sumptuary laws – will enjoy a resurgence.161 Similarly, rationing and other measures that directly limit consumer choice will not receive serious consideration in the absence of a public sense of crisis.162

1. Economic Incentives

The use of incentives to encourage desired behavior or discourage damaging behavior is more politically plausible than outright prohibition. Such incentives often involve taxation in one form or another. The broadest proposals include a sweeping

157 See id. at 1268 (“Reducing levels of consumption is a more direct approach [than reducing patterns of consumption], but more difficult as well.”).
158 See Harsch, supra note 148, at 554; Michael P. Vandenbergh, The Individual as Polluter, 35 ENVTL. L. REP. 10,723, 10,723 (2005) (describing individual behavior as “perhaps the most important remaining source category” of environmental harm that “has been largely overlooked”); Daniel A. Farber, Controlling Pollution by Individuals and Other Dispersed Sources, 35 ENVTL. L. REP. 10,745, 10,745 (2005).
159 See supra Part II.A.
160 See Salzman, supra note 11, at 1256 (explaining that consumption laws are “a weak sibling of production laws . . . because issues of sustainable consumption go to the very heart of societal norms such as lifestyle, equity, and cultural identity”).
161 Sumptuary laws historically were employed to discourage ostentatious display and to protect elite privilege, but often failed or were effectively circumvented. See ROBERT FRANK, LUXURY FEVER 199-201 (1999).
162 See HUNTER ET AL., supra note 5, at 66.
overhaul of the U.S. tax system, from one based on income to one based on consumption.\textsuperscript{163} Although such proposals often focus on nonenvironmental goals such as promoting savings and investment,\textsuperscript{164} some proposals distinguish between different types of consumption, imposing higher levies on goods that have greater negative environmental impacts.\textsuperscript{165} Such proposals seek primarily to shift consumption toward more eco-friendly goods, rather than reduce overall consumption.\textsuperscript{166} Obstacles to the enactment of such tax schemes include the administrative complications of determining a particular good’s environmental impact,\textsuperscript{167} and more significantly, deep-rooted economic policies that promote consumption as a critical element of economic growth.\textsuperscript{168}

Environmental taxes may focus narrowly on reducing the consumption of specific products. Carbon taxes, for instance, could be imposed to reduce fossil fuel consumption and to combat climate change.\textsuperscript{169} Or taxes could be imposed on the use or ownership of

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\textsuperscript{163} For example, the USA Tax, a tax bill introduced in Congress in 1995, would have replaced the household income tax with a household tax that makes all household saving tax-deductible, and it would have replaced the corporate income tax with a business tax that makes all capital investment immediately deductible. See Laurence Seidman, The USA Tax: A Progressive Consumption Tax 3 (1997). To counter objections as to potential regressivity, a consumption tax can incorporate escalating marginal tax rates and other features. See, e.g., Frank, supra note 161, at 211-19 (proposing “progressive consumption tax”).

\textsuperscript{164} See Seidman, supra note 163, at 3.


\textsuperscript{166} See id. at 95; see also Stephen Smith, Environmental Tax Design, in Ecotaxation 21, 23 (Timothy O’Riordan ed., 1997) (distinguishing between emissions-based pollution charges and taxes levied on consumption that reflect estimated environmental damage).

\textsuperscript{167} See Albrecht, supra note 165, at 94-96 (noting administrative complications, but suggesting the use of simplified classification schemes to provide a rough basis for setting tax rates).

\textsuperscript{168} See id. at 99; Salzman, supra note 11, at 1260 (noting “paradox inherent in government taking any action that might reduce consumption, for governments presumptively should promote consumption in order to increase economic growth”); see also supra text accompanying nn. 89-91.

luxury goods, status goods, or other nonessential items. Even tax proposals limited to specific classes of goods, however, frequently encounter stiff political opposition.

Consumption might also be reduced through the elimination or reform of subsidies that promote urban sprawl and other practices associated with high levels of consumption. These subsidies include tax deductions for home mortgage interest and property taxes, the exclusion from gross income of employer-provided parking, and tax breaks for the exploration, development, and depletion of minerals and fossil fuels. Eliminating such subsidies is often difficult, however, because of the benefit they provide to powerful interests and constituencies.

Subsidies could be employed affirmatively to promote shared consumption in place of individual consumption. Increased public investment in community resources, such as public transit, libraries, parks, and recreation facilities, can lessen the need for individual ownership and consumption. Renting and sharing schemes, such as car-share programs and tool lending libraries, also may reduce consumption.

Other economic proposals aim at the role of consumer credit in fueling consumption. Credit cards, installment plans, and home equity loans enable and

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170 See, e.g., Hymel, supra note 169, at 108 (advocating tax on luxury goods); Richard H. McAdams, Relative Preferences, 102 YALE L.J. 1, 72-76 (1992) (suggesting tax on consumption of status goods).
171 See Barton Thompson, Conservative Environmental Thought: The Bush Administration and Environmental Policy, 32 ECOLOGY L.Q. 307, 337-38 (2005) (contrasting Bush Administration’s distaste for environmental fees and taxes with support of politically more popular subsidies of conservation programs).
172 See, e.g., id. at 325 (discussing federal subsidies that contribute to environmental damage); WORLDWATCH INSTITUTE, supra note 19, at 98-99 (criticizing environmentally destructive subsidies and uncompensated externalities).
173 See Hymel, supra note 169, at 113-22.
174 See Thompson, supra note 171, at 325 (“subsidy recipients generally are well organized and typically have strong congressional support”).
175 See Sanne, supra note 67, at 284.
176 See id.
encourage consumers to upgrade their standard of living by consuming now, even if doing so is beyond their means.\textsuperscript{178} Tightening lending standards or restricting predatory lending practices are possible responses, although such measures would likely be opposed by the banking industry, and possibly by consumer groups as well.\textsuperscript{179}

2. Other Consumer-Oriented Measures

Most of the measures discussed above accept consumer preferences as given, and seek primarily to influence the expression of those preferences through economic incentives. Other proposals, however, rely less heavily on price incentives and focus on changes in underlying preferences, values, or lifestyles.

One such strategy for reining in consumption involves a reduction in working hours.\textsuperscript{180} As sociologist Juliet Schor contends, gains in economic productivity have generated increased output and income, which in turn have fed growth in consumption.\textsuperscript{181} Under her proposal, productivity gains would be directed instead towards reduced work hours.\textsuperscript{182} Given the claimed desire of many workers for additional leisure time, Schor contends that her proposal would break the cycle of “work and spend” and produce a “double dividend” of more free time and a better environment.\textsuperscript{183} Such a scheme, which could be implemented through voluntary action, firm-level incentives, or mandatory

\textsuperscript{178} See id. at 59; FRANK, supra note 161, at 45-47 (describing growth of consumer debt, particularly among low-income Americans).

\textsuperscript{179} See Cohen, supra note 177, at 63 (noting attention focused on consumers’ individual obligation to exercise greater financial prudence, rather than on lending practices of banking industry).

\textsuperscript{180} See Juliet B. Schor, Sustainable Consumption and Worktime Reduction, 9 J. INDUS. ECOLOGY 37 (2005); Sanne, supra note 67, at 285.

\textsuperscript{181} See Schor, supra note 180, at 44-45.

\textsuperscript{182} See id. at 40.

\textsuperscript{183} SCHOR, supra note 51, at 107-38 (criticizing “insidious cycle of work-and-spend”); Sanne, supra note 67, at 285. What people do in their additional free time will determine whether a better environment results. Some leisure activities, such as travel, can involve consumption with comparatively significant environmental effects. See id. at 285.
restrictions, is likely to encounter resistance from business and government interests that traditionally have promoted economic growth and from individuals reluctant to experience reductions in current income. To address these concerns, Schor advocates only a stabilization, rather than a reduction, of consumption levels. Worktime reduction nonetheless would require significant changes in the employer-employee relationship and in cultural values that tend to glorify long working hours.

Informational tools provide another means for shaping individual consumption. Labels and warnings can provide information about the environmental impacts of consumption to consumers directly, whereas taxes and subsidies can provide consumers with such information indirectly. This information can serve as the basis for green consumerism, the consumption of goods that can be produced and used in a sustainable and environmentally friendly manner. Although green consumerism has stimulated the development of a market for environmentally sound products, its effect on overall consumption levels is less clear. Labels may be competing, confusing, or misleading, and the volume and nature of information provided may be overwhelming. Even when

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184 The adoption of a mandate that workers be paid time-and-a-half for overtime hours, for instance, reduces companies’ use of overtime hours. See Daniel S. Hamermesh & Stephen J. Trejo, The Demand for Hours of Labor: Direct Evidence from California, 82 REV. ECON. & STATISTICS 38, 38 (2000).
185 See Schor, supra note 180, at 45-46.
186 See id. at 46. To address the economic insecurity of workers concerned about reduced work hours, Christer Sanne suggests that the reduction of production volumes be coupled with the restoration of pensions, affordable health care, and other social benefits. Sanne, supra note 67, at 285.
187 See Salzman, supra note 11, at 1263-65.
188 See Harsch, supra note 148, at 555.
189 See Gabriel & Lang, supra note 29, at 166-68 (describing green consumerism movement); Burgess, supra note 150, at 80 (explaining why provision of “information is necessary, but not sufficient, to ensure than an environmentally sustainable decision is made”); Durning, supra note 13, at 125 (“At its worst, green consumerism is a palliative for the conscience of the consumer class, allowing us to continue business as usual while feeling like we are doing out part.”).
consumers absorb the information being conveyed, they may only shift their consumption choices, rather than reduce their overall consumption.\footnote{191}

To reduce overall consumption levels, campaigns could encourage consumers to buy fewer goods.\footnote{192} Adherents of the voluntary simplicity movement, for example, seek to reduce material consumption in favor of a simpler lifestyle and more time with family, community, and nature.\footnote{193} “Freegans” live off of consumer waste to minimize their ecological impact and to reduce their support of the corporate economy.\footnote{194} Such movements, however, have experienced little success in the past, and would require significant shifts in social norms and values.\footnote{195} Promoting changes in values through the law rather than through voluntary movements is not likely to be easier.\footnote{196}

Other commentators advocate a more direct attack on the tools that promote consumption, particularly advertising. Even if unsuccessful in selling a particular

\begin{footnotesize}
\footnote{191} See Harsch, supra note 148, at 555-56 (“Even green consumerism fails to address the underlying causes of overall demand, seeking only to create preferences of environmentally friendly goods.”).
\footnote{192} See, e.g., Judith Levine, Not Buying It: My Year Without Shopping (2006) (author’s account of living for one year while avoiding all but the most necessary purchases).
\footnote{193} See Durning, supra note 13, at 139-42; Frank, supra note 161, at 188; see also Gabriel & Lang, supra note 29, at 147 (describing Local Exchange Trading Systems that involve local bartering economies).
\footnote{195} See Durning, supra note 13, at 142, 145-46; Frank, supra note 161, at 189-93 (contending that voluntarily simplicity movement is unlikely to succeed because costs of unilaterally adopting a simpler lifestyle are often very high); Jackson, supra note 59, at 32 (noting that the “view of consumption as a vital form of social communication suggests that simplistic appeals to consumers to forego consumption opportunities just will not wash”).
\footnote{196} See Salzman, supra note 11, at 1269 (“the law is far more effective in changing the technology of consumer goods . . . than the cultural values underlying the consumption of those goods”); Eric A. Posner, Law and Social Norms 8 (2000) (“social norms are unlikely to change as a result of simple, discrete, low-cost interventions by the government . . . attempts to intervene are risky, because social norms are complex, poorly understood, and sensitive to factors that are difficult to control”); Richard A. Posner, Social Norms and the Law: An Economic Approach, 87 Am. Econ. Rev. 365, 368 (1997) (noting weakness of evidence that law shapes norms); Robert C. Ellickson, Order Without Law: How Neighbors Settle Disputes vii (1991) (“[P]eople frequently resolve their disputes in cooperative fashion without paying any attention to the laws that apply to those disputes.”); but cf. Richard H. McAdams, The Origin, Development, and Regulation of Norms, 96 Mich. L. Rev. 338, 354 (1997) (“arguably the most important relationship between law and norms is the ability of law to shape norms”); Cass R. Sunstein, Social Norms and Social Roles, 96 Colum. L. Rev. 903, 947 (1996) (suggesting that social norms can be “a policy instrument of great potential value,” particularly where “changes in norms may be the cheapest and most effective way to make things better”).}
product, advertising promotes consumption as a pathway to happiness and solving life’s problems.\textsuperscript{197} Possible measures to counteract advertising run the gamut from public service announcements to the imposition of taxes on advertising, or even a ban on advertising that promotes consumption.\textsuperscript{198} In the United States, however, the more coercive measures are not likely to be adopted because of their potential to run afoul of First Amendment protections for commercial speech.\textsuperscript{199} Less problematic from a constitutional perspective would be public education campaigns that encourage individuals “to be citizens rather than mere consumers.”\textsuperscript{200} Such efforts would aim at the root causes of overconsumption, but would require a reorientation of the education system and a societal shift in values and conceptions of the good life.\textsuperscript{201}

\textbf{IV. Virtual Consumption}

The measures discussed in the preceding section have the potential to reduce consumption or ameliorate its environmental impacts, yet they all face serious obstacles in terms of political viability and effectiveness. Given the broad scope of the challenge posed by consumption, any successful response will have to rely on multiple approaches. Can virtual worlds and their successors offer a viable alternative to real-world consumption? Will they be a useful part of the arsenal to rein in consumption, or will

\textsuperscript{197} See \textit{Durning}, \textit{supra} note 13, at 119.  
\textsuperscript{199} See \textit{Lorillard Tobacco Co. v. Reilly}, 533 U.S. 525 (2001) (“a speech regulation cannot unduly impinge on the speaker’s ability to propose a commercial transaction and the adult listener’s opportunity to obtain information about products’); \textit{Central Hudson Gas & Elec. Corp. v. Pub. Serv. Comm.}, 447 U.S. 557, 561-66 (1980) (setting out criteria for evaluating constitutionality of commercial speech restrictions). Restrictions on advertising that have been enacted are generally limited to deceptive advertising and harmful products such as cigarettes.  
\textsuperscript{200} Harsch, \textit{supra} note 148, at 609.  
\textsuperscript{201} See \textit{id.} at 609.
they, like some other technologies, fail to deliver on promises of a less resource-intensive future? To investigate these questions, this Part first describes how virtual worlds work, using Second Life as a prototype, and then analyzes their ability to satisfy the drivers of consumption.

A. Second Life

Second Life, according to its website, “is a 3-D virtual world entirely built and owned by its residents,” “a vast digital continent, teeming with people, entertainment, experiences and opportunity.”\(^\text{202}\) Sometimes described as “an animated version of real life,”\(^\text{203}\) this virtual world is run by Linden Lab, a private company based in San Francisco, California. A person who joins Second Life creates an “avatar” – a computer-generated image who can do many of the same things in the virtual world that an ordinary human being would do in the real world. One’s avatar can buy and sell goods, acquire land, attend a lecture, go clubbing, or meet other avatars in this virtual world.\(^\text{204}\) Virtual consumption – the consumption of luxury homes, cars, clothes and the like – is a significant component of the Second Life existence. There is no fee to join Second Life, but it takes money – Linden dollars (which can be exchanged for real money at a rate of approximately 300 Linden dollars to one U.S. dollar) – to participate in transactions online. Linden Lab makes a profit by leasing land, trading currency, and charging virtual landowners monthly property maintenance fees.\(^\text{205}\)

\(^{204}\) See James Harkin, Get a (Second) Life, FINANCIAL TIMES REP. 18, Nov. 18, 2006, 2006 WLNR 20054094 (providing basic instructions for getting started and getting around in Second Life).
\(^{205}\) See Cosmo Lush, The Promise of Real Profits from a Weird Virtual World, SPECTATOR, Nov. 11, 2006, at 34.
Second Life is no ordinary online game, however, as participants and commentators make clear. Indeed, Professor Edward Castronova has identified two distinct functions of virtual worlds such as Second Life: virtual worlds as play spaces and virtual worlds as extensions of the Earth. Second Life serves both as a play space where users entertain themselves, as well as an extension of Earth where users work, carry on business, and socialize. Unlike many of their predecessors, Second Life and other virtual worlds popular today are increasingly designed to be used by ordinary people with no special technical knowledge or interest. And in contrast to most other virtual worlds and online virtual reality games, Second Life participants are granted intellectual property rights in their creations. This limited right of ownership has contributed to a growing economy within Second Life having significant real-world value.

As odd as Second Life may seem to the uninitiated, it is more than just a passing diversion for participants. As of July 2007, more than eight million people “inhabit” this world, although the number of participants online at any one time is far less, somewhere

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206 See, e.g., James Harkin, supra note 204, at 18 (“Don’t make the mistake, however, of telling a Second Life aficionado that this is all a game. . . . It is much more lifelike than that.”); Chris Nuttall, It Was Science Fiction – Now It’s Just Normal, Fin. Times Rep. 2, May 9, 2007, 2007 WLNR 8724735 (reporting analyst’s comment that “virtual worlds such as Second Life are not games, but neither are they a parallel universe yet”).


between 30,000 to 40,000. One online research firm predicts that 80% of active internet users and Fortune 500 companies will have an online avatar by 2011, either in Second Life or in some other virtual world. While participants use Second Life primarily for socializing purposes, Second Life is far more than the latest version of an Internet chat room. Millions of U.S. dollars worth of money is traded on Second Life’s currency exchange each month, and the GDP of Second Life was estimated at $64 million as of September 2006. One resident, Anshe Chung, has even earned a moniker as the “Rockefeller of Second Life” for creating a real estate empire that generates an estimated $150,000 (in U.S. dollars) per year. Collectively, the net worth of the global market in virtual items from virtual worlds such as Second Life is an estimated $1.8 billion.

Second Life has attracted the attention of corporate America and other interests, with dozens of companies establishing a corporate presence in Second Life. Toyota, for example, made virtual models of its new Scion available for avatars to test-drive, and

211 See Nuttall, supra note 206, at 2.
212 See Newitz, supra note 203, at 98.
213 See Semuels, supra note 210, at 1; Official Linden Blog, June 2007 Metrics Published,
214 See Newitz, supra note 203, at 75.
216 See Julian Dibbell, The Life of the Chinese Gold Farmer, N.Y. TIMES MAGAZINE, June 17, 2007, Sec. 6, at 36 (describing practice of “gold farming,” in which laborers play role-playing games to earn virtual currency); Fairfield, supra note 4, at 1062 (“The projected U.S. revenue from sales of virtual objects in real-world currency is approximately $100 million dollars, and over $1.5 billion worth of transactions occurs yearly through in-environment trades.”). Virtual consumption is a significant component of various virtual worlds and video games. In The Sims, a popular video game, players direct the daily life activities of a character and use virtual money to supply the character’s home; in the racing video game Grand Turismo, players shop for virtual cars with virtual money; and in the fantasy role-playing online game Everquest, players can manufacture artifacts or purchase weapons in an online marketplace. See Molesworth & Denegri-Knott, supra note 144, at 2, 6.
217 See Lush, supra note 205, at 34.
athletic shoe manufacturers sell shoes for avatars. So far, most large corporations seem to view Second Life as more of an opportunity to advertise real-world products than as a profitable medium for business in and of itself, although some companies are beginning to use Second Life as a recruiting tool to perform screening interviews. Other powerful interests also have taken note of Second Life: lawyers have set up virtual legal practices in Second Life; political campaigns and rallies take place in Second Life; nonprofits are sponsoring events in Second Life; and the Jesuits have identified Second Life as fertile territory for evangelizing. A Congressional committee is studying whether transactions that take place in Second Life should be taxed, and participants who take cash out of virtual worlds are required to report any income from such endeavors to the IRS.

Educational institutions and private companies are also experimenting with Second Life as a learning tool. Because of its interactive nature, Second Life-based

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218 See id. at 34.
219 See id. at 34, 36; Harkin, supra note 204 (reporting admission by corporate manager “that much corporate interest in Second Life is no more than a marketing gimmick”).
220 See Anjali Athavaley, A Job Interview You Don’t Have to Show Up For, WALL ST. J., June 20, 2007, at D1.
226 See 26 U.S.C. § 61 (“Except as otherwise provided in this subtitle, gross income means all income from whatever source derived”); see also Harkin, supra note 204.
classes offer opportunities for collaboration and dialogue that are unavailable through Web-based classes.\footnote{See Newitz, supra note 203, at 98.} Companies conduct training sessions and set up virtual conference rooms to hold meetings and exchange information.\footnote{See Newitz, supra note 203, at 98; Chris Nuttall, \textit{Virtual Mirror on the Real World}, \textit{FIN. TIMES}, Dec. 15, 2006, at 10, 2006 WL 21838492.} Second Life also facilitates modeling and experimentation without real-world consequences: architecture students can create and demolish models of full-scale structures, for example, and business students can set up virtual businesses.\footnote{See Andrea L. Foster, \textit{The Avatars of Research}, \textit{CHRONICLE OF HIGHER EDUC.}, Sept. 20, 2005, at A35; see also Caroline Bradley & A. Michael Froomkin, \textit{Virtual Worlds, Real Rules}, 49 N.Y. L. SCH. L. REV. 103 (2004) (suggesting potential uses of virtual worlds to study effects of different legal rules).}

The current version of Second Life is far from perfect, and has been likened to the functional but still developing Web browsers that were available in the early 1990s.\footnote{See Nuttall, supra note 228, at 10.}

Expressing frustrations common to veteran participants and neophytes, one account of Second Life notes that “[i]ts graphics can be wooden and cartoonish compared with the latest games, [and] the service can be slow, difficult to navigate and often crashes.”\footnote{Nuttall, supra note 228, at 10; see also Robert Hof, \textit{The Coming Virtual Web}, Bus. Week (online), Apr. 16, 2007 (noting that virtual worlds “still touch relatively few people’s lives, in no small part because they’re primitive and awkward to use”).}

Nevertheless, upcoming versions of Second Life will surely incorporate technical improvements and new features such as voice capabilities,\footnote{See Nuttall, supra note 206, at 2. Second Life’s goal, according to some, is to replicate the Metaverse, the virtual reality realm of Neal Stephenson’s science fiction novel, \textit{Snow Crash}. See Cory Ondrejka, \textit{Escaping the Gilded Cage: User Created Content and Building the Metaverse}, 40 N.Y. L. SCH. L. REV. 81 (2004) (contending that creation of “a defensibly real, online world” equivalent to Stephenson’s \textit{Metaverse} is possible). Characters in that novel enter the Metaverse by “goggling in” and interact with others through avatars. The protagonist of the novel, who lives in a 20-by-30 foot storage space in reality, dwells in a huge mansion in the Metaverse. \textit{NEAL STEPHENSON, SNOW CRASH} 24 (1992).} and users will be able to choose from a wide range of virtual worlds in the future.\footnote{See, e.g., Adrian David Cheok et al., \textit{Combining the Real and Cyber Worlds Using Mixed Reality and Human Centered Media}, Proceedings of the 2005 International Conference on Cyberworlds, http://ieeexplore.ieee.org/iel5/10580/33457/01587512.pdf?isnumber=33457&prod=CNF&arnumber=1587512&arSt=+8+pp.&ared=&arAuthor=Cheok%2C+A.D.%2BShang%2BPing%2BLee%2BWei%2BLiu%2BJames} Because they are ultimately
commercial enterprises, virtual worlds will compete for users, offering different experiences and varying levels of governance and intellectual property rights.\textsuperscript{234} Thus, even if Second Life itself does not survive future competition, virtual worlds will play an increasingly significant role in the globalization of services and in computer-mediated and real-world social activities.\textsuperscript{235}

Although it is impossible to describe in detail what future virtual worlds will look like and to what uses they might be put, Professor Castronova makes a general prediction:

\begin{quote}
[I]n the medium-term future, the online multiplayer gaming market will probably consist of a number of large, densely populated worlds, with varying degrees of portability between them. The worlds will generate large revenue streams and will occupy many hours of human time, some of it considered play, some of it considered work. The hours that people devote to games will result in the accumulation of stocks of digital capital goods. These objects will have considerable economic value. Given the expected growth in connectivity, interface technologies and content, there is reason to believe that this digital capital stock may eventually become quite large.\textsuperscript{236}
\end{quote}

Market analyses of online gaming and high-speed Internet access in the United States and in Asia suggest that strong growth is likely to continue.\textsuperscript{237} Ultimately, the prospects of virtual worlds depend on whether they offer a superior alternative to real life for spending

\begin{footnotes}
\item[234] T.K.S. (discussing tools for “mixed reality,” in which virtual objects are incorporated into a real three-dimensional scene, or real-world elements are incorporated into a virtual environment).
\item[235] See Mayer-Schonberger & Crowley, supra note 1, at 1779-80, 1802-03. Google, for example, has released 3-D modeling software that allows users to build layers on top of its popular Google Earth application, and these applications eventually could serve as the building blocks of a virtual world operated by Google. See Chris Taylor, Google Moves Into Virtual Worlds, BUSINESS 2.0, Dec. 14, 2006, http://money.cnn.com/2006/05/11/technology/business2_futureboy_0511/.
\item[237] See CASTRONOVA, supra note 2, at 66.
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time.238 A recent survey finding that 43% of Internet users who are members of online communities “‘feel as strongly’ about their virtual community as they do about their real world communities”239 suggests that virtual worlds are beginning to offer a competitive alternative to reality.

Virtual worlds will be especially attractive to younger generations, who are being introduced to the medium at an early age. Virtual worlds tailored to children and adolescents, such as Cartoon Doll Emporium, WeeWorld, and Club Penguin, are growing rapidly, and the millions of children exposed to these media will grow up comfortably with the idea of interacting in virtual worlds.240 For these and future generations, the line between the real and the virtual will be a blurred one.

B. Is Virtual Consumption an Answer?

To assess whether virtual consumption can serve as a useful tool for tackling real consumption, we must consider the ability of virtual worlds to satisfy the motivations that drive consumption. We thus return to the leading explanations for consumption identified earlier in this Article: to satisfy inherent desires; to fulfill manipulated desires; to establish identity and communicate with others; and to pursue pleasure and experiences.241 No single theory completely accounts for modern consumption, but because the theories are not mutually exclusive, we need not settle on one dispositive

238 See CASTRONOA, supra note 2, at 70-75.


241 See supra Part II.
rationale. Rather, each of the theories plausibly explains at least some consumptive
behavior,242 and the application of these theories here will prove useful in analyzing
virtual consumption.

1. Satisfying Consumptive Desires – Inherent or Manipulated

The hypothesis that virtual consumption can serve as a tool for reducing real
consumption, while relatively simple, may at first seem implausible. How can these
successors to video games provide the same – or superior – satisfactions as real-world
goods and services? Can virtual objects actually satisfy desires to consume, whether
instinctual or manipulated? The fact that many users are spending significant amounts of
time in virtual worlds nevertheless hints at the pull of virtual worlds. Indeed, virtual
worlds do seem to satisfy certain basic human needs in ways akin to real life experiences,
and may even satisfy human desires in ways that real life cannot.

Some users, for instance, find the satisfaction of spending money in Second Life
to be equivalent to the satisfaction of spending money in real life. Going shopping is a
popular activity in Second Life.243 One Second Life user reportedly stated, “I’m saving
so much money in real life because I get the satisfaction of spending in Second Life and
it costs almost nothing.”244 Edward Castronova suggests some reasons how this might be
so:

When you buy something, the fun comes from several sources. Certainly, you
enjoy the uses of the new object; it does for you that you could not do before. But
it is also fun simply to go around and collect information about qualities and
prices and then make a choice about which thing to buy. That is, the very process

242 Cf. MILES, supra note 29, at 155 (“Consumerism should not be considered to be a purely manipulative
weapon of dominant social orders. To take this position would be to underestimate the subtleties of
consumerism as a way of life. Consumption, in effect, both contrains and enables.”).
243 See Ondrejka, supra note 209, at 4.
of making a choice under scarcity is enjoyable. . . . A third source of fun is the wearing and using of the item, which can earn all kinds of social notice and respect.245

These sources of satisfaction, which draw on different theories of consumption, all can be obtained from virtual consumption in ways that are similar to real consumption.

From a materialist perspective, it is difficult to explain how virtual consumption satisfies individual desires. Under rational choice theory, however, the fact that individuals choose to spend substantial time and resources in virtual worlds is itself sufficient to demonstrate that these choices satisfy inherent wants.246 The central limitation of applying rational choice theory, however, is that it simply accepts consumer preferences as given and declines to delve into the motivations behind those preferences. As a result, the theory has little predictive power regarding the long-term attractiveness to consumers of virtual consumption as a substitute for real consumption.

Producers, however, are likely to resist the substitution of virtual consumption for real consumption. Consumer sovereignty theory, which promotes real consumption as a goal of economic policy,247 suggests that producers of real goods and services have much to lose if real consumption declines. Discussing the implications of virtual worlds for real-world economies, Professor Castronova analogizes extensive virtual world participation to a time-consuming hobby in which users “spend 60 to 80 hours a week in an activity that has essentially no impact, positive or negative, on the economy.”248

Although such users “will be creating new assets, with real economic value, in online

245 CASTRONOVA, supra note 2, at 177.
246 See supra Part II.A.
247 See supra Part II.A.
248 Edward Castronova, "On Virtual Economies" (July 2002), at 28, CESifo Working Paper Series No. 752. Available at SSRN: http://ssrn.com/abstract=338500. Castronova goes on to note that such behaviors “are credible in so far as they represent entirely normal behavior on the part of a substantial fraction of the players of games like EverQuest.” Id. at 29.
worlds,” the products of their labor will not be reflected in GDP and other economic indices, which presently place no value on online assets. Both governments and bricks-and-mortar businesses may well have an interest in discouraging such activity to the extent that it displaces real-world consumption or undermines conventional economic growth.

The virtual activity described by Castronova not only would be invisible to the economy, but also would have essentially no impact on the environment. With respect to consumption in the real world, intense virtual world users would “get just enough Earth money to support their Earth needs, such as food, water, some simple clothes, and a roof over their head.” Ultimately, the creation and consumption of virtual assets may turn out to be far more environmentally benign than the creation and consumption of real-world goods and services, as long as the energy and material requirements that support online activity are not excessive. Virtual consumption does not demand the extraction of resources from the natural world, nor does it generate the wastes associated with real-world production processes.

Virtual consumption obviously cannot displace all, or even most, real consumption. To the extent that manipulation explains consumption, virtual worlds may simply serve as an additional avenue for manipulative practices. Moreover, for much of the developing world, virtual consumption is far removed from the daily struggle for subsistence.

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249 Id. at 29.
250 Id. at 28-29.
251 See infra Part V.B (discussing energy and material requirements to support computer use).
252 In 1999, an estimated 2.8 billion people – 40% of the world’s population – were living on less than $2 a day, the minimum, according to the World Bank and the United Nations, for meeting basic needs. See WORLDWATCH INSTITUTE, supra note 19, at 6.
to the wealthy or the educated elite. Although Second Life is designed to be used by persons without special technical skills, most participants are technologically savvy early adopters. The potential relevance of virtual consumption may nevertheless be quite broad. Approximately 1.7 billion people worldwide belong to a “consumer class,” defined as persons with incomes over $7,000 and who are typically users of televisions, telephones, and the Internet. Almost half of this consumer class lives in developing nations, and it is in these countries, particularly China and India, where there is the greatest potential for growth in consumption. China’s leading Internet company, Tencent, offers its 100 million plus users a rudimentary virtual world experience in addition to social networking and video sharing capacities. And in South Korea, participation in virtual worlds is surpassing television watching as a form of entertainment. Given this data, diverting expected growth in real consumption towards virtual consumption ultimately could be an effective means of constraining the size of humanity’s ecological footprint.

2. Satisfying Communication and Symbolic Purposes

Rational choice theory does not provide a satisfying explanation as to why people consume. Rather, it accepts consumer preferences as given and essentially treats the

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253 See MILES, supra note 29, at 71 (noting that “[a]ccess to technology is inherently divisive in so far as it creates a distinction between those who have the resources to partake in technological consumption and those who do not”).
254 See Nuttall, supra note 228, at 10.
255 See WORLDWATCH INSTITUTE, supra note 19, at 6.
256 See id. at 6-7.
257 See David Barboza, Internet Boom in China Is Built on Virtual Fun, N.Y. TIMES, Feb. 5, 2007, at A1 (reporting that Tencent users can “enter[] imaginary worlds where they can swap virtual goods and assume online personas”).
258 See Fairfield, supra note 4, at 1061; Choe Sang-Hun, Playing to Death in a Wired Korea, INT’L HERALD TRIB., June 12, 2006, at 11 (describing popularity of online gaming in South Korea, growing problem of addiction, and occasional resultant deaths).
sources of those preferences as a black box. To better assess the potential for virtual consumption to displace real consumption, we must turn to psychological and anthropological explanations for consumption.

Perhaps the greatest appeal of virtual worlds for users – and the greatest potential to satisfy consumptive urges – lies in the creation of alternative realms for social interaction in which participants can establish identities and form relationships. Linden Lab’s insistence that Second Life is not a game underscores this point. Classifying an activity as a game suggests that the activity has a diverting purpose, is governed by rules of play, and lacks moral consequences. Second Life surely can be diverting, and Linden Lab does enforce certain ground rules; for example, residents who engage in harassment or destructive behavior are banished. Much of Second Life, however, consists of virtual analogues of real-world activities, with serious purposes and real-world implications. As noted above, real-world political campaigns, multinational corporations, and nonprofits have established presences on Second Life; and involvement in online communities sometimes leads to offline actions. Indeed, the primary function of Second Life for many users is not to entertain, but to broaden their social lives.

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261 See Newitz, *supra* note 203, at 78.

262 See *supra* notes 217-218.

263 See USC Center for the Digital Future, *supra* note 239 (reporting that more than one-fifth of online community members take actions offline at least once a year that are related to their online community and that two-thirds of online community members who participate in social causes through the Internet were new to the causes when they began participating on the Internet).

264 See Newitz, *supra* note 203, at 98.
passive audience, virtual worlds inherently involve interaction. And in contrast to the worldwide Web, where the human presence is generally minimal, virtual worlds involve interaction with other human beings.265

The interactive capacity of virtual worlds immediately suggests simple but practical communications applications with direct economic and environmental benefits. Corporate experimentation with Second Life for recruiting purposes will likely expand to wider use for meetings and other collaborative efforts, increasing business efficiencies while reducing associated environmental costs.266 Individuals, too, should benefit from the ability to meet up with family and friends online, reducing fuel use and other travel-related consumption in the process.

The value of virtual worlds as a means of communicating and building relationships extends far beyond such relatively straightforward applications, however. The interactive nature of virtual worlds suggests their potential to satisfy basic human desires for relationships and connections that material consumption often promises, but rarely fulfills.267 Anecdotal accounts indicate that Second Life is often more than a means of enhancing preexisting relationships. One user describes her experience on Second Life as follows: “I’ve made so many friends, and just like in real life, I love to see and chat with them. In fact they are as important as the friends I have outside of Second

265 See Hof, supra note 231.
266 See Chris Edwards, Another World, ENG’G & TECH, Dec. 2006, at 28, 30-32 (discussing use of virtual worlds by engineering companies); Nuttall, supra note 228, at 10 (describing IBM’s experimentation with different uses of Second Life).
267 The relationships formed in virtual worlds can seem quite real to participants. One survey of players of Lineage, a role-playing game, found that 70% would feel guilty if they role-played being in love with an online character other than their real-world partner. Leo Sang-Min Whang & Jee Yeon Kim, The Comparison of Online Game Experiences by Players in Games of Lineage & EverQuest, Proceedings of Digital Games Research Association 2005 Conference: Changing Views – Worlds in Play, at 3 (2005), http://www.digra.org/dl/db/06278.34425.pdf.
Another user reports that when he has a dispute with his real-world partner, he enters Second Life “to talk things through” with friends he has previously made online. Such comments, as well as the proliferation of locations within Second Life where members with common interests can converge, reveal the power of virtual worlds to make and sustain human connections.

The theory of consumption as communication proposes that real-world consumption can convey messages about identity, superiority, solidarity, and relationships. Whether the social interaction enabled by Second Life can substitute for much of this consumption presents a difficult question that would benefit from future empirical study. A reexamination of Veblen’s theory of conspicuous consumption in the context of Second Life, however, points to a second, more immediate link between virtual worlds and real-world consumption: because virtual consumption possesses many of the same communicative qualities as real consumption, the former may directly substitute for the latter.

So how does the theory of conspicuous consumption fare in the virtual world? On the one hand, the ease of adopting a desired bodily form for one’s avatar and acquiring the trappings of wealth – without having much real wealth – has the potential to undermine the dynamic that underlies the theory. As various observers have noted,

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268 Elder, supra note 244, at D1; see also Lastowka & Hunter, supra note 3, at 8-9 (observing that many participants place great value on the social interactions they have in virtual worlds).
270 See supra Part II.C.
271 Cf. Sanne, supra note 67, at 285 (suggesting that promoting social interaction “can substitute for (some) status consumption because it would allow people to present themselves in other capacities [than as consumers]”).
272 See supra Part II.C.
nearly everyone in Second Life is young, sexy, and drives a luxury car.\textsuperscript{273} Yet closer examination reveals that even in Second Life, social and economic distinctions can proliferate, and virtual consumption can serve a communicative function. Newcomers to Second Life quickly learn that they can customize virtually all aspects of their avatars’ physical appearance. This ability to choose one’s appearance, and thus in large part one’s identity, is one of the most appealing advantages of virtual worlds over the real world.\textsuperscript{274} One’s appearance, though readily modified, is not meaningless. As in the real world, adopting a certain look or purchasing particular clothes and services in the virtual world to “spruce up” one’s avatar reflects conscious and subconscious choices about the images and messages that one wants to project to others.\textsuperscript{275}

Some meanings – such as those associated with possession of a luxury car – are borrowed from the real world; other meanings, however, have developed within virtual worlds themselves. For instance, purchases of virtual accessories, while relatively inexpensive compared to real-world purchases, can serve as the basis for distinctions analogous to those in the real world. In Second Life, status is demonstrated through ownership of items with meticulously programmed designs, textures, and animations.\textsuperscript{276} Such items, which participants can either purchase from other participants or create themselves, have attained status value because they require creativity and effort to


\textsuperscript{274} See R.V. Kelly, \textit{Massively Multiplayer Online Role-Playing Games: The People, the Addiction, and the Playing Experience} 62-63 (2004); see also Christopher Healy, \textit{Hey, Man, Let’s Play Video Game Dress-Up}, N.Y. TIMES, July 1, 2007, at Sec. 9, p.1 (discussing costuming elements of male-targeted video games that “allow[] young men to express themselves through clothing in a way no traditional male pastime has allowed before”).

\textsuperscript{275} See Lastowka & Hunter, \textit{supra} note 3, at 10 (quoting executive of There, a virtual world, that style and brand choices in virtual world are logical extensions of such choices in real world).

\textsuperscript{276} See MacMillan, \textit{supra} note 273.
produce. As virtual worlds become increasingly important in people’s lives, virtual consumption of items connoting status, however it is defined in virtual worlds, could well displace, at least in part, real-world consumption that is driven by status.

3. Psychic Satisfaction

Virtual worlds serve as a diversion, of course. They nevertheless differ from networked video games or even ordinary online games in that they are, in the words of Gregory Lastowka and Dan Hunter, both “persistent” and “dynamic.” Video games are usually centered around a single player, whereas virtual worlds are multi-centric, continuing to exist and develop even when a player is absent. Because virtual worlds are constantly changing and expanding, they offer the prospect of satisfying – at least temporarily – the desires of those who are looking to consume new pleasures and experiences. Granted, virtual worlds are not for everyone. Some find Second Life to be dull, whereas others dismiss virtual worlds as unworthy of serious attention. Yet the growing ranks of virtual world users, some of whom spend twenty to thirty hours per week “in world,” as well as the introduction of millions of children to elementary versions of virtual worlds, suggest a bright future for virtual worlds. For a rapidly

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277 Anshe Chung, a Second Life virtual real estate mogul, owns a company that employs ten real-world programmers in China to help design virtual real estate developments. See Bray & Konsynski, supra note 235, at 6. See also Lastowka & Hunter, supra note 3, at 39 (discussing incident in which company paid unskilled Mexican laborers to play Dark Age of Camelot, and then sold the virtual assets they created).

278 Lastowka & Hunter, supra note 3, at 5.

279 See, e.g., Harkin, supra note 204 (“At its worst, I found the experience of being in Second Life – endlessly hanging out, walking around looking in vain for something worth doing, trying rather awkwardly to make conversation with total strangers and computer geeks – a little soporific.”).

280 See CASTRONOVA, supra note 2, at 1 (reporting such use for “typical users” of virtual worlds); Mayer-Schonberger & Crowley, supra note 1, at 1782 (reporting anthropological study finding that subscribers spend an average of 22.71 hours per week in their respective virtual worlds).
expanding segment of the population, virtual worlds are becoming no more unreal, and no less important, than the physical world we all inhabit.281

The increasingly prominent role of desires, as opposed to physical needs, in driving modern consumption gives hope for reducing consumption by satisfying those desires in virtual worlds.282 Virtual worlds can gratify desires for pleasure and new experiences in a manner akin to how material consumption satisfies these desires. As discussed above, Colin Campbell’s theory of consumer hedonism understands consumption of real goods as reflective of a dynamic, romanticized relationship between consumers and objects.283 The daydreaming, romanticized qualities that Campbell finds in real consumption likewise characterize participants’ engagement in virtual worlds. If, as Campbell suggests, “[t]he essential activity of consumption is . . . not the actual selection, purchase or use of products, but the imaginative pleasure-seeking to which the product lends itself,”284 then virtual consumption seems to provide an experience equivalent to – and substitutable for – what real consumption provides. Just as people escape the ordinary routines of everyday life by visiting “temples of consumption” such as Disney World or the local shopping mall,285 virtual world users enter a realm comprised of a similar combination of deceptions, myths, fantasies, and daydreams.286

281 See USC Center for the Digital Future, supra note 239 (reporting that “43% of Internet users who are members of online communities say that they ‘feel as strongly’ about their virtual community as they do about their real-world communities”); cf. Lastowka & Hunter, supra note 3, at 7 (contending that “virtual worlds, and the social interactions that occur within them, constitute an important societal development that deserves careful investigation”).

282 See GABRIEL & LANG, supra note 29, at 100 (acknowledging overlap of needs and desires, but noting that desires, unlike needs, can be satisfied by a wide variety of means).

283 See supra Part II.D.

284 See CAMPBELL, supra note 76, at 89.

285 See PATERSON, supra note 100, at 72-74 (describing domination of experience at Disney theme parks by consumption, from shopping and eating to hotel accommodations).

286 See Lastowka & Hunter, supra note 3, at 8 (observing that “virtual worlds have much in common with Disney World” in providing experiences divorced from reality). Such experiences can be found not only in virtual worlds, but also in more mundane online activities that are analogous to window shopping. For
And just as consumers accessorize themselves and their homes in the real world, virtual world participants customize their avatars and virtual homes. The attraction of these popular virtual world activities is that they allow participants to express themselves and to explore and create cultural forms, just as real consumption does. Virtual worlds even offer an advantage over the real world in this area because of their greater malleability: when one’s avatar or virtual home becomes tiresome, one can satisfy one’s renewed desires for new pleasures by simply reinventing oneself as well as one’s surroundings.

Indeed, virtual worlds may ultimately be a more powerful means of satisfying consumers’ creative desires than real consumption because virtual worlds can enable access to experiences not readily available in the real world, experiences “more seductive and satisfying than the mundane experiences available in . . . shopping malls.” To begin with, one’s wealth, status, and appearance in the real world tend not to be limiting factors in virtual worlds. More importantly, in virtual worlds, one can

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288 See, e.g., Richard A. Bartle, Virtual Worldliness: What the Imaginary Asks of the Real, 49 N.Y.L. SCH. L. REV. 19, 30 (2004) (explaining how some virtual worlds facilitate exploration of identity by delivering the experience of a “hero’s journey”); Mike Molesworth & Janice Denegri-Knott, Digital Play and the Actualization of the Consumer Imagination, 2 GAMES AND CULTURE 114, 118 (2007) (suggesting that virtual worlds allow people to explore fantasies that cannot ever be actualized in the real world, even with limitless resources); see also BARTLE, supra note 1, at 130 (categorizing virtual world users into four types: achievers, socializers, explorers, and killers).
289 Molesworth & Denegri-Knott, supra note 288, at 130.
290 See Ketzel Levine, Alter Egos in a Virtual World, NPR, July 31, 2007 (describing examples of virtual world users who have taken on avatars with physical appearances quite different from their real-world appearances); KELLY, supra note 274, at 63 (describing virtual worlds as “a completely separate and egalitarian world where energy and resolve determine your fate and where appearance, age, connections, and socioeconomic advantage are all meaningless”); Molesworth & Denegri-Knott, supra note 288, at 130.
take actions and risks without fear of adverse physical consequences.\footnote{291}{See KELLY, supra note 274, at 28.} This disinhibiting feature of virtual worlds frees individuals to participate in activities considered taboo in the real world, such as crimes or affairs. Alternatively, participants may embark on dangerous adventures or new pursuits, achieving excitement, psychic satisfaction, and a sense of progress not readily available in ordinary everyday life.\footnote{292}{See KELLY, supra note 274, at 24 (noting “life-enriching features” of virtual worlds “that the real world just can’t compete with,” including “the idea of daily progress” and the “concept of the quest”); Molesworth & Denegri-Knott, supra note 288, at 124; CASTRONOVA, supra note 2, at 72.}

Although television and other media can also provide an escape from the real world, virtual worlds are far more powerful because they “actually offer the missing aspects of the players’ real lives,” including “a sense of adventure, social interaction, a sense of participation or purpose, the feeling of achievement, [and] the chance to explore.”\footnote{293}{KELLY, supra note 274, at 64; see also Levine, supra note 290 (noting that MIT sociologist Sherry Turkle has described virtual worlds “as laboratories for the construction of identity”).} Virtual worlds, in other words, “allow users to make their own stories.”\footnote{294}{Yochai Benkler, There Is No Spoon, in THE STATE OF PLAY: LAW, GAMES, AND VIRTUAL WORLDS 180, 182 (Jack M. Balkin & Beth Simone Noveck eds., 2006).}

C. A Role for Law?

Perhaps the greatest attraction of virtual consumption as a tool for reining in real consumption is its feasibility. Unlike most alternatives discussed earlier in this Article, virtual consumption does not face daunting barriers to adoption and implementation. Proposals to prohibit luxury items, tax consumption, or voluntarily reduce consumption, for example, would require drastic changes in lifestyles and values, wholesale restructuring of economies, or the defeat of entrenched and powerful interests, if not all three.\footnote{295}{See supra Part III.} In contrast, virtual consumption appears to be taking off on its own, and the
analysis above suggests that it is an attractive option for replacing some real consumption.

Can or should the law facilitate the role of virtual consumption as part of a solution to the consumption problem? Law can certainly encourage the flourishing of virtual worlds in general. Broad policies to promote technological innovation and widespread high-speed Internet access will advance the development and use of virtual worlds. Similarly, the law can support the adoption of open standards and common platforms so that users can move their avatars (and their virtual possessions) easily between different virtual worlds.296 Transferability of avatars and virtual assets will encourage financial and psychic investment in virtual worlds, thereby encouraging virtual consumption.

Whether the law should go beyond such general measures is uncertain. Government incentives could promote virtual worlds deliberately designed to reduce real-world consumption,297 for example, but it is unclear whether such worlds would be attractive to potential users. Another possibility, importing real-world legal doctrines and requirements into virtual worlds, also has indefinite ramifications. Virtual world operators exercise control over virtual worlds not only through the underlying computer code, but also through end-user licensing agreements (EULAs).298 EULAs spell out rules of proper play within virtual worlds, and have been used to limit or eliminate user rights within virtual worlds, including rights to virtual property and rights to sue.299

296 Cf. Balkin, Virtual Liberty, supra note 4, at 2071 (noting that “common platform standards for virtual worlds will eventually make it easier to transfer items from one virtual world to another”).
297 Tax incentives might be designed to foster the creation of novel items in virtual worlds, for instance.
298 See id. at 2049.
299 See Lastowka & Hunter, supra note 3, at 50 (“Since the EULAs are written by the corporate owners, their terms inevitably grant all rights to the owner of the world.”); Fairfield, supra note 4, at 1050; Balkin, Virtual Liberty, supra note 4, at 2094-95.
Constitutional, tort, property, or copyright doctrines, however, may eventually be applied to virtual world activity, overriding EULAs, as courts and legislatures seek to protect the interests of virtual world users. While such moves may initially appear to impede the development of virtual worlds, they ultimately may encourage virtual world use by promoting confidence in them. Moreover, if the law treats virtual assets in a manner similar to real-world assets, the consumption of virtual assets could increasingly be perceived as a viable surrogate for real consumption.

On the other hand, the use of virtual worlds might be best promoted by not extending the reach of the law too deeply within them. Taxing transactions in virtual worlds, for instance, may impede commerce and creativity to such a degree as to destroy the viability of those worlds. Extending property, tort, or criminal protections to virtual worlds may undermine their attractiveness to users as places of intrigue, escape, and freedom. Incorporating private property protections also may infringe upon the freedom of virtual world designers, stifling the evolution of virtual worlds. Ultimately, virtual worlds, given their increasingly shifting and extraterritorial nature, may resist attempts to impose traditional law upon them. Although a full discussion of these issues is beyond the scope of this Article, the analysis of virtual consumption here

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302 See, e.g., Carol M. Rose, The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems, 83 MINN. L. REV. 129, 161-62 (1998) (suggesting that “the gaudy looseness of public access,” as opposed to stringent property protections, “vitally nourishes the creativity that our intellectual property laws aim to foster”).

303 See Richard A. Bartle, Virtual Worldliness, in THE STATE OF PLAY, supra note 294, at 31, 44-45.

304 See Mayer-Schonberger & Crowley, supra note 1, at 1780-81 (economic analysis of virtual world development suggesting that attempts to regulate virtual world providers will lead to Napster-like decentralization and make impossible regulation by real-world lawmakers).
demonstrates the need to consider the full implications of online activity as we design legal institutions or import them into virtual worlds.305

V. Caveats

The preceding Part demonstrates the potential for virtual worlds to contribute to environmental quality in the real world by replacing real consumption with virtual consumption. Virtual worlds nevertheless raise serious concerns, discussed below, that warrant further investigation, analysis, and debate before we wholeheartedly embrace virtual worlds as a fundamental tool for addressing the consumption problem.

A. Increased Real Consumption?

As an initial matter, the sanguine environmental view of virtual worlds may be mistaken. Rather than substituting for consumption, virtual worlds may become mere marketing tools for promoting greater real-world consumption. One popular account predicts that “[t]he next version of Second Life will be seamlessly integrated with the Web, making it easier for real-world businesses to sell items through SL.”306 Shopping for real-world goods in a virtual world, in contrast to today’s solitary experience of online shopping, may become more like the social and recreational experience it is for real-world mallrats today.307 Relatively few companies have capitalized on the marketing

305 See generally THE STATE OF PLAY, supra note 294, and supra note 3 for citations to sources that discuss these issues in more detail.
306 Newitz, supra note 203, at 98; see Edward Castronova, Real Products in Imaginary Worlds, HARV. BUS. REV., May 2005, at 20-22 (discussing virtual marketing prospects and pitfalls); Reena Jana & Aili McConnon, Second Life Lessons, BUS. WEEK, Nov. 27, 2006, at 17 (reporting Linden Lab CEO’s future conception of Second Life as a 3D Web browser in which one can buy real products in virtual shops).
307 See Hof, supra note 231; Balkin, Virtual Liberty, supra note 4, at 2067 (“it is possible, if not likely, that many virtual spaces will effectively become shopping malls for both real and virtual goods”).
potential of virtual worlds thus far, but examples are beginning to appear.\textsuperscript{308} Webkinz, stuffed animals that have gained tremendous popularity among elementary school children, are promoted through Webkinz World, a virtual world website that allows users to interact with their “pets.”\textsuperscript{309} Other companies encourage potential customers to experience virtual versions of real commodities – such as luxury cars or jewelry – presumably with the purpose of stimulating real consumption of those commodities.\textsuperscript{310}

Virtual worlds are unlikely to become mere shopping malls, however. Virtual worlds have gained a following largely because of their ability to engage the imaginative, daydreaming side of their users. A completely commercialized virtual world will lose much of this quality and is unlikely to be populated for long.\textsuperscript{311} Even milder forms of commercialization may be resisted. Within Second Life, for instance, a group calling itself the Second Life Liberation Army has vandalized corporate storefronts in the virtual world,\textsuperscript{312} while Reebok’s virtual storefront was subject to a nuclear bomb attack.\textsuperscript{313} Ultimately, users of virtual worlds have the power to choose another virtual world – or even to create their own.\textsuperscript{314} Although users may incur significant transaction costs in switching virtual worlds,\textsuperscript{315} competition between different virtual worlds\textsuperscript{316} makes it

\begin{itemize}
\item \textsuperscript{310} See Molesworth & Denegri-Knott, supra note 144, at 6.
\item \textsuperscript{311} See CASTRONOVA, supra note 2, at 169 (“For as entertaining as Wal-Mart Online may become, it will never have the drawing power of the world of my dreams.”); Semuels, supra note 210, at 1 (describing difficulties faced by companies trying to market real-world products in Second Life).
\item \textsuperscript{312} See Bray & Konsynski, supra note 235, at 24.
\item \textsuperscript{313} See Semuels, supra note 210, at 1.
\item \textsuperscript{314} See Online Gaming’s Netscape Moment?, supra note 236, at 14 (noting availability of free software for building and hosting a virtual world).
\item \textsuperscript{315} See Mayer-Schonberger & Crowley, supra note 1, at 1804-06 (noting that “participants in virtual worlds invest time and effort into acclimating to the software environment, exploring the virtual worlds, and
\end{itemize}
likely that overly commercialized virtual worlds will be abandoned for less commercial alternatives.

If virtual worlds ultimately are effective in reducing real consumption, there will likely be resistance from powerful interests to counter that effect.317 The replacement of real consumption with virtual consumption may be reflected as a decline in official economic indices; such apparent recessions could present difficulties for ruling governments.318 As economic activity migrates into virtual economies, tax bases may erode more quickly than the demand for government services, in the absence of taxes on virtual transactions.319 Companies that profit from real consumption but are unable to profit from virtual consumption would also have a strong interest in resisting a transition to virtual consumption and in using virtual worlds merely as a tool for marketing goods.320

**B. Real Consumption Necessary for Virtual Consumption**

The rise of virtual worlds might lead to greater real consumption not only as a result of clever marketing, but also because of high resource demands of the servers, networks, and computers that make virtual worlds possible. Virtual consumption necessarily involves consumption of raw materials used to manufacture computers, networks, and supporting systems, as well as the energy needed to power them. The resource requirements of computer production and use are not trivial. The production of

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316 See supra text accompanying note 236.
317 See CASTRONOVA, supra note 2, at 255-56 (suggesting “significant political and social stress” as economic activity migrates to virtual worlds).
319 See id. at 30.
320 See CASTRONOVA, supra note 2, at 255-56 (“owners of assets whose value falls as synthetic world assets replace them will not be happy”).
a single desktop computer requires approximately 240 kilograms of fossil fuels, 22
kilograms of chemicals, and 1,500 kilograms of water, according to one study.\footnote{See Eric Williams, Environmental Impacts in the Production of Personal Computers, in COMPUTERS & THE ENVIRONMENT: UNDERSTANDING AND MANAGING THEIR IMPACTS 41, 64 (Ruediger Kuehr & Eric Williams eds., 2003). These figures assume that the computer uses a cathode ray terminal monitor. Although the increasingly popular liquid crystal display monitors are significantly smaller, their manufacture is more energy-intensive. \textit{See id. at 67.}} The
production and disposal of electronic equipment also raise significant concerns regarding
exposure to chemicals and hazardous materials.\footnote{See id. at 67.} Over an entire lifecycle, a computer
consumes approximately the same amount of fossil fuel as a refrigerator.\footnote{See id. at 64.}

Compounding matters, technological equipment is susceptible to increasingly
rapid obsolescence.\footnote{See ERNEST BRAUN, FUTILE PROGRESS 42 (1995).} Predicting the marginal resource effects of increased participation
in virtual worlds is a difficult and imprecise task, however.\footnote{Cf. Klaus Fichter, \textit{E-Commerce: Sorting Out the Environmental Consequences}, 6 J. INDUS. ECOLOGY 25, 27 (identifying three categories of potential environmental effects of e-commerce: first-order effects associated with technology infrastructure; second-order effects associated with changes in resource productivity, transportation, and land use; and third-order effects resulting from structural changes of the economy and in lifestyle and consumption patterns).} On the one hand,
purchases of the latest technology may be driven by the advanced graphics interface of
virtual worlds, which demands powerful computers and high-speed Internet
connections.\footnote{See Robert D. Hof, \textit{My Virtual Life}, BUS. WEEK, May 1, 2006, at 72, 78.} On the other hand, the convergence of television and the Internet,
facilitated by the increasing availability of high-speed connections, suggests that many
households will purchase new hardware,\footnote{See Clint Swett, \textit{Faster Internet Hastens Change}, SAC. BEE, July 15, 2007, at A1.} regardless of their level of participation in
virtual worlds. There are also reasons to believe that the environmental impact of the
additional hours people will spend in virtual worlds will be modest. Three-quarters of
energy consumption for a computer occurs during production rather than use,\footnote{See Williams, \textit{supra} note 321, at 64.} and

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\item \footnotetext[321]{See Eric Williams, Environmental Impacts in the Production of Personal Computers, in COMPUTERS & THE ENVIRONMENT: UNDERSTANDING AND MANAGING THEIR IMPACTS 41, 64 (Ruediger Kuehr & Eric Williams eds., 2003). These figures assume that the computer uses a cathode ray terminal monitor. Although the increasingly popular liquid crystal display monitors are significantly smaller, their manufacture is more energy-intensive. \textit{See id. at 67.}}
\item \footnotetext[322]{See id. at 67.}
\item \footnotetext[323]{See id. at 64.}
\item \footnotetext[324]{See ERNEST BRAUN, FUTILE PROGRESS 42 (1995).}
\item \footnotetext[325]{Cf. Klaus Fichter, \textit{E-Commerce: Sorting Out the Environmental Consequences}, 6 J. INDUS. ECOLOGY 25, 27 (identifying three categories of potential environmental effects of e-commerce: first-order effects associated with technology infrastructure; second-order effects associated with changes in resource productivity, transportation, and land use; and third-order effects resulting from structural changes of the economy and in lifestyle and consumption patterns).}
\item \footnotetext[326]{See Robert D. Hof, \textit{My Virtual Life}, BUS. WEEK, May 1, 2006, at 72, 78.}
\item \footnotetext[327]{See Clint Swett, \textit{Faster Internet Hastens Change}, SAC. BEE, July 15, 2007, at A1.}
\item \footnotetext[328]{See Williams, \textit{supra} note 321, at 64.}
\end{enumerate}
Internet use constitutes only about one percent of current U.S. electricity demand.329 Both of these facts suggest that increased energy consumption resulting from participation in virtual worlds will have a relatively small overall impact in terms of total energy consumption.

Claims regarding technology’s ability to replace real consumption nonetheless should be viewed with caution in light of our experience with such claims. The United States has witnessed a shift from a manufacturing-based economy towards one based more on services and information exchange, consistent with experts’ predictions of the emergence of a post-industrial society.330 Expectations that dematerialization would accompany this economic transformation,331 however, have not been fulfilled.332 While some individual products, such as beverage containers and automobiles, have become lighter and less materials-intensive, overall materials consumption has not decreased, thanks to economic growth, population growth, demographic shifts, and other factors.333


331 Dematerialization refers to the absolute or relative reduction in the quantity of materials used and/or the quantity of waste generated in the production of a unit of economic output. See Cutler J. Cleveland & Matthias Ruth, Indicators of Dematerialization and the Materials Intensity of Use, 2 J. INDUS. ECOLOGY 15, 17 (1999).

332 See James Salzman, Beyond the Smokestack: Environmental Protection in the Service Economy, 47 UCLA L. REV. 411, 442 (1999) (noting that absolute consumption levels are rising despite improvements in material intensity and pollution control, and hypothesizing that “the information revolution and the rise of services have a net negative environmental impact because they increase overall economic activity and thus overall resource consumption”).

333 See Iddo K. Wernick et al., Materialization and Dematerialization: Measures and Trends, DAEDALUS, Summer 1996, at 179-83 (1996) (noting rise in per capita volumetric consumption of materials); id. at 189 (noting that growing wealth, shift to smaller households, and individuation of products contribute to increased materialization); id. at 194 (finding “no significant signs of net dematerialization at the level of the consumer”); Cleveland & Ruth, supra note 331, at 16 (contending that data suggesting dematerialization overlooks various factors, including actual environmental impacts and potential for increased overall consumption due to efficiency improvements).
Perhaps the most prominent example of this phenomenon involves paper consumption. Rather than enabling a “paperless society,” electronic communications and information storage technologies apparently have contributed to increased paper consumption.334 Since 1950, U.S. paper consumption has soared, quadrupling in terms of total volume, and doubling on a per capita basis.335 Moreover, technological advances – including broadcast television, cable television, and the Internet – often have been deployed with the purpose of stimulating consumption, rather than solving society’s environmental problems.336

C. A Dark Side of Virtual Worlds?

Perhaps the most troubling concerns posed by virtual worlds are the dangers of addiction, dehumanization, and detrimental effects on relationships and values.

Second Life presents a myriad of positive applications, as well as its share of potentially degrading influences.337 In one columnist’s words, Second Life is “98% stupid, overrun with sex clubs, discos, yard sales, tragic architecture and more shopping malls than the San Fernando Valley.”338 Another observer, analogizing Second Life to “a seedy, derelict carnival,” found Second Life to be dominated by the “breakdown of

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334 See James Brooke, The Paperless Office? Not by a Long Shot, N.Y. TIMES, Apr. 21, 2001, at C1 (describing how technology such as computers, laser printers, and digital photographs have increased paper use).
336 See David Morley, Theories of Consumption in Media Studies, in THE CONSUMER SOCIETY, supra note 78, at 262, 264 (discussing relationship between media technologies and consumption).
337 See Harkin, supra note 204 (noting predominance of “illicit sex, endless boutiques and long stretches of boredom” and describing Second Life experience at its worst as involving “endlessly hanging out, walking around looking in vain for something worth doing, [and] trying rather awkwardly to make conversation with total strangers and computer geeks”).
inhibition,” resulting in “the triumph of amusement and distraction over meaning and purpose.” If these descriptions accurately capture the phenomenon, perhaps most users of Second Life will ultimately tire of it. The growth of virtual worlds, however, shows few signs of abating, and their mesmerizing and perhaps even addictive quality may solidify their user base.

Whether heavy users of virtual worlds and the Internet are clinically addicted is hotly debated among researchers and the medical community. Studies of extreme video game playing and Internet use suggest the need for caution and further study. Defining addiction as “an uncontrollable urge, often accompanied by a loss of control, a preoccupation with use, and continued use despite problems the behavior causes,” one expert has suggested that frequent users be considered addicts when their “use of the computer is less about using it as an information tool and more about finding a psychological escape to cope with life’s problems.” The American Psychiatric Association has not officially recognized Internet addiction as a disorder, and some experts contend that heavy virtual world users, while possibly anti-social or introverted, are not addicted because they choose to spend time in virtual worlds and would seek

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342 See Dorsey Griffith, When Playing Video Games Is an Obsession, SAC. BEE, June 22, 2007, at A1. The American Medical Association recently debated the issue, and the American Psychiatric Association is likely to consider the matter in the next revision of the American Diagnostic and Statistical Manual of Mental Disorders. See id.
alternative forms of social interaction or entertainment if virtual worlds were unavailable.\(^{343}\)

Many of the features that make consumption in virtual worlds an attractive alternative to real consumption are the same features that might make virtual worlds addictive. Interactive, real-time Internet applications, such as virtual worlds, present the greatest potential for addiction because of their social and competitive aspects and their appeal to basic wants of the human psyche.\(^{344}\) Unlike ordinary video games, which can become repetitive and boring, virtual worlds offer the prospect of continually new experiences and social interaction.\(^{345}\) The availability of social interaction suggests the viability of relationships in virtual worlds – at least in some instances – as an alternative to real-world relationships. Such relationships can be quite positive, of course; virtual world experiences might be used to build support groups and new relationships in communities of common interests. Virtual interaction can also enrich existing relationships, as geographically distant family members spend time together and share virtual experiences.\(^{346}\)

\(^{343}\) See Brian D. Ng & Peter Wiemer-Hastings, *Addiction to the Internet and Online Gaming*, 8 CYBERPSYCHOLOGY & BEHAV. 110, 112-13 (2005); cf. CASTRONOVA, supra note 2, at 65 (concluding that given the lack of detailed studies of the daily lives of virtual world users, “we cannot really tell whether they are addicted, or just making an understandable choice”).

\(^{344}\) See Ng & Wiemer-Hastings, supra note 343, at 110-11; KELLY, supra note 274, at 66. Some users refer to MMORPGs generally as “heroineware,” and many players of the game *Everquest* refer to it as “Evercrack.” Ng & Wiemer-Hastings, supra note 343, at 110-11. The attractiveness – and potential addictiveness – of virtual worlds is suggested by the fact that their users tend to spend much more time online than players of traditional video games. See id. at 112.

\(^{345}\) See id. at 111.

\(^{346}\) See CASTRONOVA, supra note 2, at 257-58; cf. Mark MacWilliams, *Symbolic Resistance to the Waco Tragedy on the Internet*, 8 NOVA RELIGIO 59, 59 (2005) (describing the Internet as “a powerful tool for informational and organizational purposes,” particularly for marginalized groups). Relationships formed online, however, may not be as deep or as satisfying as real-world relationships. See YOUNG, CAUGHT IN THE NET, supra note 341, at 95-107 (describing Internet as a “faceless community” where online relationships sometimes turn out to be an “illusion”).
The anonymity associated with virtual worlds, however, also allows users to create a virtual identity and existence divorced from reality.\textsuperscript{347} For some, virtual reality might be preferable to real life, potentially resulting in neglect of real-world responsibilities and relationships. To make matters worse, as virtual worlds become profitable for their operators, operators will have a financial incentive to keep users “hooked” in virtual worlds as long as possible.\textsuperscript{348} If individuals become lost “to a space that, by any standard of human worth, dignity, and well-being is not good for them,”\textsuperscript{349} outside intervention may be necessary. Although such individuals will continue to dwell physically in the real world, the fear is that their consciousnesses might settle permanently in the virtual world, shaping their values, hopes, and desires.\textsuperscript{350}

Even if heavy participation in virtual worlds does not technically qualify as an addiction, it can have significant detrimental effects on people’s lives. Examples include damage to intimate relationships by online affairs, academic problems among students distracted by the Internet, and poor employee performance.\textsuperscript{351} Interactions with the real world and with others in person may decline,\textsuperscript{352} and relationships with real-world spouses, family members, and friends may suffer.\textsuperscript{353} Ultimately, virtual worlds may promote only an illusion of interactivity and community, while in actuality leaving an

\begin{itemize}
\item \textsuperscript{347} See Ng & Wiemer-Hastings, \textit{supra} note 343, at 111.
\item \textsuperscript{348} See CASTRONOVA, \textit{supra} note 2, at 238.
\item \textsuperscript{349} \textit{Id.} Edward Castronova refers to such a state as “toxic immersion.” \textit{Id.}
\item \textsuperscript{350} See id.
\item \textsuperscript{351} See Young, \textit{Internet Addiction, supra} note 341; Whang & Kim, \textit{supra} note 267, at 5 (comparison of two MMORPGs finding that players in one game were far more likely to feel guilty if they role-played being in love with someone else, suggesting that such relationships are viewed as equivalent to real-world relationships).
\item \textsuperscript{352} See MILES, \textit{supra} note 29, at 77 (“computers run the risk of making consumption increasingly passive”).
\item \textsuperscript{353} See CASTRONOVA, \textit{supra} note 2, at 256.
\end{itemize}
isolated and passive consumer.\textsuperscript{354} That the spending of substantial amounts of time in virtual worlds may result from free-willed decisions rather than addiction still presents a troubling prospect.

Indeed, virtual reality – and virtual consumption – bear more than a slight resemblance to the “experience machine,” a thought experiment suggested by philosopher Robert Nozick as a refutation to hedonism.\textsuperscript{355} Nozick hypothesizes “an experience machine that would give you any experience you desired.”\textsuperscript{356} Through this machine, neuropsychologists would stimulate your brain so as to simulate the desired experience. In reality, however, “you would be floating in a tank, with electrodes connected to your brain.”\textsuperscript{357} Nozick then asks whether one would choose to plug into this machine. Although an affirmative choice might give one feelings of happiness, Nozick ultimately rejects the experience machine:

\begin{quote}
What does matter to us in addition to our experiences? First, we want to do certain things, and not just have the experience of doing them. . . . A second reason for not plugging in is that we want to be a certain way, to be a certain sort of person. Someone floating in a tank is an indeterminate blob. There is no answer to the question of what a person is like who has long been in the tank. . . . Thirdly, plugging into an experience machine limits us to a man-made reality, to a world no deeper or more important than that which people can construct. . . .
\end{quote}

Obviously, Second Life and other virtual worlds differ from Nozick’s experience machine (and even more dystopic visions such as that found in \textit{The Matrix} films) in various ways, not the least of which is that they provide opportunities to interact with

\textsuperscript{354} \textit{See} MILES, \textit{supra} note 29, at 88 (“technology continues to seduce us with an illusion of interactivity and liberation which in actual fact promotes the passivity of the consumer”); Neil, \textit{supra} note 338, at 154 (criticizing devotion of time and resources to virtual reality and urging participants to “[c]ome back from Second Life” because “First Life needs you”).

\textsuperscript{355} ROBERT NOZICK, ANARCHY, STATE, AND UTOPIA 42-45 (1974).

\textsuperscript{356} \textit{Id.} at 42.

\textsuperscript{357} \textit{Id.}

\textsuperscript{358} \textit{Id.} at 43. A somewhat less menacing machine of the same genre, the “orgasmatron,” appears in the Woody Allen film, \textit{Sleeper}. 67
other human beings. However, one’s ability in Second Life to assume a selected persona and a chosen avatar, combined with the ability to have virtual experiences that simulate real ones, raises serious questions about the moral suitability of these activities.

Viewed in this light, the fact that many Internet users feel as strongly about their online communities as they do about their real communities\(^ {359}\) is both impressive and troubling. Granted, virtual worlds offer far more excitement, with increasingly powerful graphic capabilities, than the video games of yesteryear. The growing attraction of virtual worlds nevertheless may be as much a commentary on the quality of life in the real world as a testament to the experiential value of virtual worlds.\(^ {360}\) As more people establish presences in the virtual world, the danger is that these virtual world users will “tune out” the real world, give it less value, and view its problems as increasingly irrelevant.\(^ {361}\) Technology has had a tendency to foster social isolation by privatizing how we get information, how we do things, and how we entertain ourselves;\(^ {362}\) virtual worlds may well exacerbate that isolation.

Of particular concern, with respect to consumption’s effects on the environment, are the potential effects of virtualization on values pertaining to nature and the environment. Technology has tended to isolate us not only from each other, but also

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359 See supra note 281.
360 See CASTRONOVA, supra note 2, at 77 (“When people choose synthetic worlds, they do so simply because, for them, ordinary life does not meet their needs. The question of whether synthetic worlds will grow is therefore ultimately a question of how many ordinary human lives exhibit that level of cultural and emotional emptiness.”).
361 Cf. CASTRONOVA, supra note 2, at 260 (predicting increased social tension between users and nonusers of virtual worlds); Margaret Morse, What Do Cyborgs Eat? Oral Logic In an Information Society, in CULTURE ON THE BRINK: IDEOLOGIES OF TECHNOLOGY 157, 179-81 (Gretchen Bender & Timothy Druckrey eds., 1994) (suggesting that virtual reality experiences merely hide “the problem of the organic body” and obscure “responsibility for the organic consequences of remote action”).
362 See Roberts, supra note 25, at A27 (quoting social scientist Robert D. Putnam regarding effects of technology on social bonds).
Virtual worlds might be especially distancing because they suggest the possibility of existence in realms apart from nature. Virtual worlds are not devoid of nature as a concept: one can be exposed to representations of nature in virtual worlds, and real-world environmental problems such as sprawl and littering have their counterparts in Second Life. Such experiences are incomplete substitutes for direct experience with nature, however, because they lack the immediacy and intimacy of real encounters with nature. Concerns about virtual environments may sometimes translate into concerns about the real environment, but such an outcome is hardly guaranteed. Ultimately, even if most people are able to maintain a healthy distinction between the real world and cyberspace, one can expect transformations of our conceptions of nature and a decline in empathy and concern for the natural world.

The environmental values of current and future generations matter for several reasons. First, those values help determine the effectiveness of today’s environmental policies, which often rely as much on value-motivated behavior as on legal constraints. Second, environmental policy strategies often have long-term effects and require long-

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363 See Richard Louv, Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder 119 (2006) (noting that time available for interaction with nature has decreased as more time is devoted to the Internet, television, and commuting).
364 See Davis, supra note 223, at 13.
366 See Davis, supra note 223, at 13 (describing efforts of environmental nonprofits to use Second Life as recruiting ground, but warning of danger “that some will remain more concerned about SL’s environment than about the real one”).
367 See LOUV, supra note 363, at 149-50 (noting that childhood experiences of nature are often the most formative influences for environmental concern); Doremus, supra note 365, at 244 (contending that “direct personal experience of nature promotes, and isolation from nature inhibits” development of environmental values).
368 See Doremus, supra note 365, at 236-37; see also Alyson C. Flournoy, Building an Environmental Ethic From the Ground Up, 37 U.C. Davis L. Rev. 53 (2003) (explaining importance of public understanding of values underlying environmental laws to long-term efficacy of environmental policies).
term commitments. The success of today’s strategies rests in part on the development of environmental values in our successors, who can continue, extend, or curb nature protection policies. Third, virtual worlds can provide new fora for social interaction and creativity, but they cannot replace the physical earth. Ultimately, virtual worlds can flourish only if the resource base on which they rest is adequately protected.

Conclusion

Virtual worlds such as Second Life have the potential to serve as a valuable tool for addressing consumption and its associated environmental ills, but are no magic bullet. Like many new technologies, virtual worlds offer the promise of increased efficiencies through virtual meetings and the like. The environmental potential of virtual worlds extends far beyond mundane efficiency gains, however. Virtual worlds present the intriguing prospect of substituting virtual consumption for real consumption by offering opportunities, experiences, and pleasures that satisfy many of the motivations that underlie modern consumption. Although older generations may find the notion of virtual consumption improbable, younger generations are growing up with – and in – virtual worlds, and likely will express much of their consumptive desires in them.

Whether virtual consumption will be better for the environment, or for society at large, remains to be determined. On the one hand, virtual worlds may serve merely as enablers of real consumption. If so, the environmental promise of virtual consumption may be only an illusion. On the other hand, virtual worlds may function as a bridge to a society less dependent on material consumption. Such an outcome would benefit the

369 See id. at 267 (arguing that “[w]e should try to frame our policies so that they will enable and encourage our successors to develop direct and indirect environmental values”).
370 See id. at 267-68.
environment and finally provide a curb to the rising tide of consumption. Even under this apparently more optimistic scenario, we will have to be wary of the dangers of dwelling too deeply in virtual worlds. We must continue to ask why virtual worlds are attractive, what their attraction suggests about conditions in the real world, and how we might use them for the benefit of mankind and the natural world.

Virtual worlds are here to stay. How we fashion them – and how they fashion us – is largely up to us.