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Virtual Consumption: A *Second Life* for Earth?

*Albert C. Lin**

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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I. 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 that democratic governments are generally loath to question. 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 real-world applications and real-world impacts. "[V]irtual 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

1. Viktor Mayer-Schonberger & John Crowley, *Napster's Second Life?: The Regulatory Challenges of Virtual Worlds*, 100 NW. U. L. REV. 1775, 1781 (2006). See generally RICHARD A. BARTLE, *DESIGNING VIRTUAL WORLDS* (2003) (describing virtual worlds and issues associated with their design).

2. See EDWARD CASTRONOVA, *SYNTHETIC WORLDS: THE BUSINESS AND CULTURE OF ONLINE GAMES* 9–10 (2005).

3. See F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1, 4–29 (2004) (providing a self-described primer on virtual worlds).

develop.”⁴

Commentators have discussed extensively the intellectual property issues associated with virtual worlds, as well as the general role of law in these environments.⁵ 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.

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 societal reluctance to limit individual freedom to make consumption choices.⁶ Virtual worlds, in contrast, might address some of the problematic aspects of

4. Jack M. Balkin, *Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds*, 90 VA. L. REV. 2043, 2044 (2004) [hereinafter Balkin, *Virtual Liberty*].

5. See, e.g., Jack M. Balkin, *Law and Liberty in Virtual Worlds*, 49 N.Y.L. SCH. L. REV. 63 (2004) (discussing prospective role of real-world law in virtual worlds); Balkin, *Virtual Liberty*, *supra* note 4, at 2046 (arguing that freedom to design and play in virtual worlds should receive First Amendment or other legal protection); Woodrow Barfield, *Intellectual Property Rights in Virtual Environments: Considering the Rights of Owners, Programmers and Virtual Avatars*, 39 AKRON L. REV. 649 (2006) (discussing various legal issues that may arise as avatars become increasingly “intelligent”); Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047 (2005) (arguing for application of common law of property to domain names, websites, and other “virtual property” that is rivalrous, persistent, and interconnected); Lastowka & Hunter, *supra* note 3; Mayer-Schonberger & Crowley, *supra* note 1.

6. See *infra* Part IV.

consumption without running afoul of similar political constraints.

Part II 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 global pollution and ecological damage on a scale threatening to human health, global security, and the physical environment. Part III reviews the leading theories of consumption. Singly, none of these theories adequately explains global—or even individual—consumption. Collectively, however, the theories present a powerful account of why people consume. Part IV 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 V examines the potential of virtual worlds—using *Second Life* as a prototype—to reduce real-world consumption, considering in particular whether virtual worlds can satisfy the drivers of consumption identified in Part III. Although Part V reaches a hopeful conclusion on this point and suggests how the law might encourage the development of virtual worlds, Part VI 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.

II. THE CONSUMPTION PROBLEM

Although the term “consumption” suggests a using up, or depletion, of the Earth’s resources, the consumption problem has little to do with scarcity. Problems of scarcity can often be overcome by substituting one resource for another.⁷ The real problem with consumption is its environmental impacts, especially given the tremendous scale and intensity of activities conducted by modern human societies.⁸

7. See DAVID HUNTER ET AL., *INTERNATIONAL ENVIRONMENTAL LAW AND POLICY* 63 (3d ed. 2007).

8. See *id.*

A. Environmental Impacts of Consumption

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).⁹ A related concept, the “ecological footprint,” places consumption in context by estimating the sustainability of human consumption of natural resources.¹⁰ According to the World Wildlife Fund’s calculations, humanity’s ecological footprint now exceeds the Earth’s biological capacity by twenty-five percent.¹¹ In other words, even with nearly twenty percent of the world living in poverty (defined as living on less than one dollar per day),¹² 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 of more residents in the developing world adopting Western lifestyles and consumption patterns is simply unimaginable.¹³

Despite the general recognition of overconsumption as a threat, very little has been accomplished or even attempted in terms of reining in consumption.¹⁴ 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.”¹⁵ This neglect is not for a lack of ideas. Technology optimists point to technological innovation as the

9. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 3 (5th ed. 2006); Paul R. Ehrlich & John P. Holdren, *Impact of Population Growth*, 171 SCI. 1212, 1212–16 (1971).

10. See WORLD WILDLIFE FUND, LIVING PLANET REPORT 2006, at 2 (2006), http://assets.panda.org/downloads/living_planet_report.pdf.

11. See *id.* Humanity’s ecological footprint first exceeded the Earth’s biocapacity in the 1980s and has grown steadily since. *Id.*

12. See Press Release, World Bank, Poverty Drops Below 1 Billion, Says World Bank (Apr. 15, 2007), <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21299914~menuPK:34463~pagePK:34370~piPK:34424~theSitePK:4607,00.html>.

13. See James Salzman, *Sustainable Consumption and the Law*, 27 ENVTL. L. 1243, 1246 (1997) (“[I]f 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”) (quoting Gro Harlem Brundtland, Norwegian politician and diplomat who helped develop the concept of sustainable development).

14. See *id.* at 1255 (discussing lack of enactments addressing consumption in a systematic manner).

15. ALAN DURNING, HOW MUCH IS ENOUGH? 11 (1992).

answer, with hybrid vehicles, green design, and the like promising to reduce ecological impacts of consumption without compromising high standards of living.¹⁶ Some economists, seeking to reduce consumption directly, call for Pigouvian taxes to send pricing signals that reflect true environmental costs.¹⁷ Others call for a wholesale restructuring of our economic system or for the adoption of simpler or more sustainable lifestyles.¹⁸ 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.¹⁹ Beef production is costly with respect to energy consumption as well, requiring forty kilocalories of fossil energy inputs for every kilocalorie of beef protein produced for human consumption.²⁰ Other consumer items also have resource requirements that are striking, but not immediately obvious. The production of the amount of gold used in a single wedding ring generates approximately three tons of toxic mining waste.²¹ The production of one liter of soda, taking raw materials and packaging into account, requires an average of five liters of water.²² And production of a cotton t-shirt requires nearly four pounds of fossil fuel and one-third of a pound of pesticides.²³

16. See, e.g., HUNTER ET AL., *supra* note 7, at 68–77 (describing promises of technology in achieving sustainable development).

17. See *infra* Part IV. A Pigouvian tax is a tax designed to internalize the full social costs of an activity, including pollution. See A.C. PIGOU, *THE ECONOMICS OF WELFARE* 92–93 (4th ed. 1962) (1932).

18. See, e.g., DUANE ELGIN, *VOLUNTARY SIMPLICITY* (1981); *VOLUNTARY SIMPLICITY: RESPONDING TO CONSUMER CULTURE* (Daniel Doherty & Amitai Etzioni, eds., 2003).

19. See David Pimentel & Marcia Pimentel, *Sustainability of Meat-Based and Plant-Based Diets and the Environment*, 78 AM. J. CLINICAL NUTRITION 660S, 662S (2003).

20. 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.*

21. See WORLDWATCH INST., *STATE OF THE WORLD 2004: SPECIAL FOCUS: THE CONSUMER SOCIETY* 16 (2004).

22. See *id.* at 94.

23. See Heidi Sopinka, *Here's Hoping You Dig That Polyester Look*, *GLOBE & MAIL*, May

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 to rise. U.S. fossil fuel consumption has increased by over thirty-five percent since 1983.²⁴ The average size of new homes in the United States has more than doubled since the 1950s, even as family size has declined.²⁵ Larger homes translate into increased consumption of land, energy, and building materials such as lumber and concrete.²⁶ 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.”²⁷

In the developing world, particularly in China and India, resource consumption is increasing at an even faster pace. For instance, oil consumption is expected to rise ninety-seven percent in China and seventy-eight percent in India by the year 2025.²⁸ Already responsible for some thirty percent of the world’s coal consumption, China is expected to double its consumption of coal by 2025 in order to satisfy factories and consumers.²⁹ Globally, the growth rate of 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

18, 2007, at L2, *available at* 2007 WL 9365701; *Being Green Comes into Fashion*, L.A. TIMES, Feb. 11, 2007, at C2.

24. See ENERGY INFORMATION ADMINISTRATION, ANNUAL ENERGY REVIEW 2006, 5 tbl.1.1, http://www.eia.doe.gov/emeu/aer/pdf/pages/sec1_5.pdf (reporting fossil fuel consumption data for each year, including 63.15 quadrillion Btu in 1983 and 85.83 quadrillion Btu in 2004).

25. See Alex Wilson & Jessica Bochland, *Small Is Beautiful: U.S. House Size, Resource Use and the Environment*, J. INDUS. ECOLOGY, Winter/Spring 2005, at 278–79 (reporting that average size of new houses increased from 1100 square feet in the 1950s to 2340 square feet in 2002, while average household size decreased from 3.67 members in 1940 to 2.62 in 2002).

26. See *id.*

27. PAUL HAWKEN, THE ECOLOGY OF COMMERCE: A DECLARATION OF SUSTAINABILITY 12 (1993). The amount of solid waste generated per person per day in the United States increased from 3.7 pounds in 1980 to 4.4 pounds in 2004. See Sam Roberts, *Faster, Taller and Thirstier Americans*, N.Y. TIMES, Dec. 15, 2006, at A27.

28. See Michael T. Klare, *Kicking the Habit, All Over the World*, L.A. TIMES, Feb. 11, 2006, at B17.

29. See Tim Appenzeller, *The Coal Paradox: We Can't Live Without It. But Can We Survive with It? (The High Cost of Cheap Coal)*, NAT'L GEOGRAPHIC, Mar. 1, 2006, at 96, 101.

service industries.³⁰ Much of this growth reflects the increasingly global reach of consumerism: the pursuit of higher standards of living through greater economic activity and expanded consumption.³¹

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,³² but the leading sources are fossil fuel consumption and deforestation.³³ Global efforts to control GHG emissions, however, thus far have made little headway. The Kyoto Protocol,³⁴ the only treaty containing firm commitments to reduce GHG emissions, is widely recognized as inadequate.³⁵ The binding emission limits of Kyoto apply only to industrialized signatories to

30. See WORLDWATCH INST., *supra* note 21, 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.”).

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

32. See Daniel B. Botkin, *Global Warming: What Is It, What Is Controversial About It, and What We Might Do in Response To It*, 9 UCLA J. ENVTL. L. & POL’Y 119, 124 (1991) (listing land clearing, use of products containing chlorofluorocarbons, and cattle-raising as examples of human activities that contribute to climate change).

33. See HUNTER ET AL., *supra* note 7, at 635–36 (discussing sources of greenhouse gases).

34. Framework Convention on Climate Change [FCCC] Conference of the Parties, 3d Sess., Dec. 1–11, 1997, *Kyoto Protocol*, U.N. Doc. FCCC/CP/1997/L.7/Add.1 (Mar. 25, 1998) [hereinafter *Kyoto Protocol*].

35. See, e.g., 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); 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.”).

the treaty, many of whom are struggling to meet their commitments.³⁶ Overall GHG 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.³⁷

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.³⁸

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

36. See *Kyoto Protocol*, *supra* note 34, 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 INFO. ADMIN., INTERNATIONAL ENERGY ANNUAL 2004, tbl.H.1co2 “World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1980–2004” (2007), <http://www.eia.doe.gov/pub/international/iealf/tableh1co2.xls>; G. Marland et al., *Global, Regional, and National CO₂ Emissions*, in TRENDS: A COMPENDIUM OF DATA ON GLOBAL CHANGE, http://cdiac.ornl.gov/trends/emis/tre_weu.htm (last visited Jan. 2, 2008).

37. In the United States, which failed to ratify the Kyoto Protocol, carbon dioxide emissions from fossil fuel consumption increased every year from 1991 to 2004, and by approximately twenty percent over that period. ENERGY INFO. ADMIN., *supra* note 36, at tbl.H.1co2 (listing annual carbon dioxide emissions from fossil fuel consumption by country). Such emissions from China, which is a signatory to the Protocol but is not subject to an emissions cap, doubled during the same period. *Id.* Between now and 2025, U.S. greenhouse gas emissions are expected to increase by one-third, and China's emissions are expected to double again. See Cass R. Sunstein, Editorial, *Limiting Climate Change: The Neglected Obstacle*, WASH. POST, Aug. 18, 2006, at A21.

38. See, e.g., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: IMPACTS, ADAPTATION AND VULNERABILITY, SUMMARY FOR POLICY MAKERS (2007); CAL. CLIMATE CHANGE CENTER, OUR CHANGING CLIMATE: ASSESSING THE RISKS TO CALIFORNIA (2006); INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: IMPACTS, ADAPTATION AND VULNERABILITY (2001); Jeffrey Kluger, *By Any Measure, Earth Is at the Tipping Point*, TIME, Apr. 3, 2006, at 30.

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,³⁹ 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.⁴⁰ 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.⁴¹ So much plastic debris has accumulated in the oceans that they now contain an estimated 46,000 pieces of plastic per square mile.⁴² One mass of such debris floating in the Pacific Ocean, dubbed the “Eastern Garbage Patch,” is twice the size of Texas.⁴³ Not only is plastic waste unsightly and hazardous to marine life, but its chemical components may be harmful to human health.⁴⁴ Furthermore, competition for natural resources such as the petrochemicals used to make plastics may contribute to social and political unrest, economic dislocation, and wars.⁴⁵ The unsustainability of current consumption suggests that national economies are destined to face stark and dramatic adjustments in the future.⁴⁶

Uneven patterns of consumption and the uneven distribution of its consequences are also problematic. Western production and consumption processes that rely heavily on global trade can exacerbate the inequitable distribution of the world’s wealth and natural assets.⁴⁷ Notwithstanding the tangible benefits that trade can

39. Kate Santich, *Saving the Earth, One Water Bottle at a Time*, ORLANDO SENTINEL, May 5, 2007, at D3.

40. See Kenneth R. Weiss, *Altered Oceans: Plague of Plastic Chokes the Seas*, L.A. TIMES, Aug. 2, 2006, at A1.

41. *Id.* at A12.

42. *Id.* at A10.

43. *Id.* at A10.

44. *Id.* at A12.

45. See CNA CORP., NATIONAL SECURITY AND THE THREAT OF CLIMATE CHANGE 10 (2007), available at <http://securityandclimate.cna.org/report/> (predicting that climate change could heighten global tensions, trigger massive migrations, and multiply threats of instability).

46. See GABRIEL & LANG, *supra* note 31, at 23.

47. Agenda 21, a plan of action adopted at the 1992 Earth Summit, declared that “the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries, which is a

provide for developing countries, trade often involves the flow of inexpensive goods or raw materials from those countries to feed consumption in the West. Such trade may foster Third World dependence on Western countries while doing little to promote long-term economic development.⁴⁸ The globalization of trade also may shield Western consumers from the negative externalities generated by the production and disposal processes necessary to sustain high levels of consumption.⁴⁹ 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 into unlined landfills, or abandoned on the streets.⁵⁰

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 consumerism is sometimes described as “*the religion of the late twentieth century.*”⁵¹ 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

matter of grave concern, aggravating poverty and imbalances.” Conference on Environment and Development, June 3–13, 1992, *Report of the United Nations on Environment and Development*, Vol. I, at 32, ¶ 4.3, U.N. Doc. A/Conf.151.26 (Vol. I) (Aug. 12, 1992).

48. See MILES, *supra* note 31, at 150.

49. See WORLDWATCH INST., *supra* note 21, 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).

50. See, e.g., Laurie J. Flynn, *Poor Nations Are Littered With Old PC’s, Report Says*, N.Y. TIMES, Oct. 24, 2005, at C5; 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); 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).

51. MILES, *supra* note 31, at 1; see also David R. Loy, *The Religion of the Market*, 65 J. AM. ACAD. OF RELIGION 275, 275 (1997) (“Our present economic system should also be understood as our religion, because it has come to fulfill a religious function for us.”).

“concretely expressed the cardinal political ideals of the century—liberty and democracy.”⁵² Although such views are open to debate, there is no denying the central role of consumption in Western society today.⁵³ Shopping is the most popular pastime of many Americans.⁵⁴ 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.⁵⁵ The American Psychiatric Association is even considering whether to list compulsive buying—which afflicts somewhere between 1.8 percent and 16 percent of the adult U.S. population⁵⁶—as a mental disorder.⁵⁷

Conventional economists and free market advocates, however, do not view current levels and patterns of consumption as problematic for consumers themselves or society at large. Under their “rational choice” model, which is explored in more detail later in this Article,⁵⁸ the ability to make consumption choices in the marketplace is a pivotal freedom enjoyed by citizens in a democratic

52. GARY CROSS, AN ALL-CONSUMING CENTURY: WHY CONSUMERISM WON IN MODERN AMERICA 1–2 (2000); see also Michael Sandel, *Democracy's Discontent: America in Search of a Public Philosophy*, 85 GEO. L.J. 2073, 2074–78 (1997) (describing ascendancy of procedural liberalism as dominant public philosophy, reflected in “consumer-based notions of citizenship”).

53. See MILES, *supra* note 31, 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) (“[O]bsessive superfluous consumption now permeates all levels of American society, creating a culture of mindless greedy acquisitiveness . . .”).

54. See DURNING, *supra* note 15, at 132 (reporting that ninety-three percent 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’”).

55. See SCHOR, *supra* note 54, at 107–08 (describing how shopping “is permeating the entire geography”).

56. Lorrin M. Koran et al., *Estimated Prevalence of Compulsive Buying Behavior in the United States*, 163 AM. J. PSYCHIATRY 1806, 1806 (2006).

57. 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).

58. See *infra* Part III.A.

society.⁵⁹ Arguably, consumerism has enabled Americans to establish new identities and created “opportunities for participation that transcended suffrage rights or political ideologies.”⁶⁰ This model, however, pays little heed to the consequences of increased consumption and its constant promotion by government, industry, and the media on social mores and individual values.

Although society should provide some support for the satisfaction of individual needs and wants, it is hard to imagine the case for materialistic traits that consumerism fosters, such as greed, selfishness, and envy.⁶¹ As suggested by studies finding little correlation between material wealth and happiness,⁶² high consumption does little to satisfy deeper human needs and may even subvert them. People with materialistic values tend to report experiences, feelings, and behaviors associated with a lower quality of life.⁶³ They are also more likely to engage in anti-social behaviors and hold attitudes damaging to society.⁶⁴ 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.⁶⁵ 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,

59. See CROSS, *supra* note 52, at 11 (noting that “[e]conomists often insist that individual liberty is identical with the subjective desires of consumers”).

60. *Id.* at 2.

61. See Belk, *supra* note 53, 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) [hereinafter Belk, *Materialism and You*], available at http://www.jrconsumers.com/Consumer_Articles/issue_1/CA1Belk.pdf (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”).

62. 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).

63. See Tim Kasser et al., *Materialistic Values: Their Causes and Consequences*, in PSYCHOLOGY AND CONSUMER CULTURE, *supra* note 53, at 11, 19. As one researcher notes, “[i]t [is uncertain whether] materialism causes unhappiness or whether unhappy people turn to materialism as a source of hope.” Belk, *Materialism and You*, *supra* note 61, at 4.

64. See Kasser et al., *supra* note 63, at 22.

65. See Belk, *supra* note 53, at 7.

and income inequity have all increased over the past thirty years.⁶⁶

In addition to its negative impacts on the individual, consumerism can undermine democratic institutions by supplanting political choices with consumer choices. Indeed, the decline in participation in civic activities and democratic institutions in the United States may be linked to an increased focus on the satisfaction of material wants.⁶⁷ The emphasis on consumption undermines notions of individual responsibility and social solidarity necessary to a vibrant political democracy.⁶⁸ 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.⁶⁹

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 is unlikely to produce general agreement.⁷⁰ 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. Even the concept of sustainability, which claims to provide an objective

66. See WORLDWATCH INST., *supra* note 21, at 18.

67. 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).

68. See GABRIEL & LANG, *supra* note 31, at 10 (describing the “Fordist Deal”—the tradeoff in which workers obtained greater material enjoyment in exchange for alienation and loss of autonomy in the workplace).

69. See CROSS, *supra* note 52, 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 31, at 176 (summarizing the perspective that “[t]he marketplace becomes a surrogate for political discourse or, in their view, incorporates political discourse, rendering it redundant”).

70. See Christer Sanne, *Willing Consumers—or Locked-in? Policies for a Sustainable Consumption*, 42 ECOLOGICAL ECON. 273, 283 (2002) (“Today basic needs is a very contested topic.”).

framework for evaluating consumption decisions, provides no easy answers.⁷¹ 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.”⁷²

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 proceeds with the premise that current levels of consumption present problems that need to be addressed and looks towards virtual worlds as a potential weapon for combating consumption’s contributions to these problems.

III. THEORIES OF CONSUMPTION

Any solution to the problems of consumption must begin by examining the reasons why people consume. 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 consumed will be of use in some way other than merely enabling survival.⁷³ 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, material functionality is not the only (or even the main) reason for much consumption.⁷⁴ Consumption often involves an attempt to satisfy *nonmaterial* needs—such as affection, participation, relationship, and understanding—through *material* means.⁷⁵ Furthermore, multiple

71. 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).

72. Salzman, *supra* note 13, 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.

73. Cf. GABRIEL & LANG, *supra* note 31, at 46–47 (summarizing critiques of concept of use-value).

74. See *infra* Part III.C, D.

75. See Jackson, *supra* note 62, at 25.

motivations for consumption may be at work in any particular instance.⁷⁶

This Part lays the groundwork for analyzing virtual consumption as a substitute for real consumption by reviewing the leading explanations for discretionary consumption. Given the multiple and complex motivations underlying human consumption decisions, each individual theory discussed below has limited explanatory power. However, the theories collectively provide a sufficiently complete picture of why people consume in order to examine the impacts of virtual worlds on consumption decisions.

A. Rational Choice Theory: Satisfaction of Wants

Rational choice theory, rooted in conventional economics, interprets consumption as an attempt to maximize personal utility.⁷⁷ We consume, in other words, to satisfy individual wants. What is the nature of these wants, and where do they come from? Rational choice theory generally assumes that wants are infinite.⁷⁸ This assumption is an oversimplification, however, for it fails to explain differences in consumption between and among cultures and in different eras.⁷⁹ Nor does it adequately account for seemingly irrational choices or selfless behavior; rational choice theory's claim that such behavior necessarily maximizes an actor's personal utility renders the theory little more than a tautology.⁸⁰ 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.⁸¹ 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.⁸² Although certain

76. See *id.* at 20 (noting "superabundance" of possible explanations for consumption).

77. See *id.* at 21–23 (discussing views of various economists).

78. See *id.* at 22; Amartya K. Sen, *Rational Fools: A Critique of the Behavioral Foundations of Economic Theory*, 6 PHIL. & PUB. AFF. 317, 322–24 (1977).

79. See COLIN CAMPBELL, *THE ROMANTIC ETHIC AND THE SPIRIT OF MODERN CONSUMERISM* 39 (1987) (noting that in non-literate and pre-industrial societies, consumption is governed primarily by custom and involves a fixed notion of wants).

80. See Jackson, *supra* note 62, at 26.

81. 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).

82. See Ackerman, *supra* note 81, at 150; Jackson, *supra* note 62, at 26.

aspects of consumer behavior, in particular its competitive and symbolic aspects, do appear to be rooted in instinctive behavior,⁸³ rational choice theory ultimately does not provide a satisfactory account of where human wants come from.⁸⁴

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.⁸⁵ Rational choice theory's descriptive account of human wants, in other words, becomes the normative concept of consumer sovereignty, which holds social welfare to be maximized through consumers' pursuit of their preferences.⁸⁶ In a very concrete way, the consumption of modern conveniences has liberated us from the drudgery of time- and labor-intensive everyday tasks.⁸⁷

Moreover, the freedom to exercise consumption choices can also serve as a means of liberation from the constraining norms of closed communities.⁸⁸ Building on the assumption of infinite human wants, economic theory has essentially accepted the merits of consumption as an end in and of itself.⁸⁹ Adam Smith's *Wealth of Nations*, for instance, proclaimed that increasing individual consumption is—and ought to be—the primary goal of economic activity.⁹⁰ The role of business in advancing this goal is merely one of supporting the

83. See Jackson, *supra* note 62, at 26–27.

84. See CAMPBELL, *supra* note 79, at 40.

85. 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 . . .”).

86. For a brief account of the consumer sovereignty model, see Doug Kysar, *The Expectations of Consumers*, 103 COLUM. L. REV. 1700, 1747–49 (2003).

87. See Mary Douglas, *The Consumer's Revolt*, in *THE CONSUMPTION READER* 144, 144 (David V. Clarke et al. eds., 2003).

88. See *id.* (contending that the freedom to consume empowers individuals to depart from community norms of attire, behavior, and lifestyle).

89. See GABRIEL & LANG, *supra* note 31, at 43 (noting that political economists of the New Right celebrate choice as an end in its own right).

90. See 4 ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 367 (Kathryn Sutherland ed., Oxford Univ. Press 1993) (1776) (“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.”); see also Ackerman, *supra* note 81, at 150–51. Smith was nevertheless critical of the human fascination with “baubles and trinkets” and of the belief that wealth equates to happiness. See Joyce Appleby, *Consumption in Early Modern Social Thought*, in *THE CONSUMPTION READER*, *supra* note 87, at 31, 36.

consumer by responding to consumer demand and by providing information (through advertising) for consumers to exercise rational choices in the marketplace.⁹¹

Conventional economists argue that increasing individual consumption benefits not only the individual, but also society at large. The social benefits of consumption include greater economic growth, and hence greater wealth, as well as reduced unemployment.⁹² This view has long served as a bedrock principle of American economic policy⁹³ and is reflected in 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 and consumers consuming.⁹⁴ This optimistic view of consumption, however, largely overlooks consumption's environmental impacts.⁹⁵

Moreover, the general concept of consumer sovereignty should not go unquestioned. For many economists, observed consumption behavior is the most reliable evidence of individual preferences, and any inquiry into the origins of those preferences is both unnecessary and unproductive.⁹⁶ 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

91. See JOHN KENNETH GALBRAITH, *THE AFFLUENT SOCIETY* 119 (1984) (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"); David B. Clarke et al., *Introduction to Part Three*, in *THE CONSUMPTION READER*, *supra* note 87, at 135.

92. See DOUGLAS E. BOOTH, *HOOKED ON GROWTH: ECONOMIC ADDICTIONS AND THE ENVIRONMENT* 37-53 (2004) (explaining relationships between GDP, productivity, unemployment, and consumption).

93. See DURNING, *supra* note 15, at 29-30 (noting that beginning in the 1920s, "[t]he 'democratization of consumption' became the unspoken goal of American economic policy"); ALLAN SCHNAIBERG & KENNETH ALAN GOULD, *ENVIRONMENT AND SOCIETY: THE ENDURING CONFLICT* 92-93 (1994) (arguing that "the major institutions of modern society are 'addicted' to economic growth and treadmill expansion").

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

95. See *supra* Part II.A.

96. See Jackson, *supra* note 62, at 21-22; *id.* at 24 ("[M]odern economics is curiously reticent on the subject of needs, preferring . . . to cash out consumer choice in the language of wants or preferences.").

exogenous forces that create, shape, and change consumer desires.⁹⁷

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.⁹⁸ Finally, studies finding little relationship between material wealth and satisfaction call into doubt the bedrock assumption of the rational choice theory of consumption: that welfare is maximized by maximizing the satisfaction of consumer demand. People, it seems, are more than rational maximizers of utility.

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.⁹⁹ Both the consumer sovereignty model and the manipulation critique view consumption as the fulfillment of human needs through commercial transactions.¹⁰⁰ The manipulation critique, however, characterizes many of those needs as artificial in that they are generated exogenously by industry.¹⁰¹ Industry's tools for stimulating consumption include product design, marketing, and advertising.

97. 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.

98. See GABRIEL & LANG, *supra* note 31, at 37 ("An unalloyed notion of choice is untenable. For consumers to be sovereign, they would have to have a wide range of options, an unlimited amount of information and unlimited amount of money.")

99. See Jackson, *supra* note 62, at 24; GALBRAITH, *supra* note 91, at 131 ("As a society becomes increasingly affluent, wants are increasingly created by the process by which they are satisfied."); see also ALLAN SCHNAIBERG, *THE ENVIRONMENT: FROM SURPLUS TO SCARCITY* 176-78 (1980) (noting that "a great deal of advertising is aimed at restructuring consumer perceptions of self and need toward passive consumption of comfort-producing goods and away from stimulating activities").

100. See Kysar, *supra* note 86, at 1757.

101. See ROBERT H. FRANK, *CHOOSING THE RIGHT POND: HUMAN BEHAVIOR AND THE QUEST FOR STATUS* 184 (1985) ("Thus, in Galbraith's scheme, we do not really need stylish automobiles or roll-on deodorants. We are merely bludgeoned into thinking we do by an endless repetition of advertising messages."); GALBRAITH, *supra* note 91, at 131 ("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.")

Planned obsolescence, the intentional design of products with limited lifespans, generates a steady demand for new or updated products.¹⁰² Marketing of products on the basis of superficial differentiations in design misleads consumers into making excessive purchases or paying inflated prices.¹⁰³ Advertising manipulates consumers into purchasing items that they might otherwise have rejected or ignored.¹⁰⁴ And even where advertising is not directly manipulative, it often omits information about product risks and about negative environmental consequences of production, use, and disposal.¹⁰⁵

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.”¹⁰⁶ Taking the manipulation critique theory one step further, sociologists from the Frankfurt School¹⁰⁷ posit that the promotion of artificial needs serves as a mechanism of social control by diverting attention from difficult political issues.¹⁰⁸

Popularized in the 1950s in attacks on increasingly sophisticated

102. See MILES, *supra* note 31, at 38; NIGEL WHITELEY, DESIGN FOR SOCIETY 16–17 (1993) (describing rise in the United States of consumerist society driven by high consumption and style obsolescence).

103. See MILES, *supra* note 31, 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).

104. See GALBRAITH, *supra* note 91, at 129–30 (arguing for importance of advertising in creating wants); MILES, *supra* note 31, at 49 (highlighting role of design in process of stimulating consumer desire); MARK PATERSON, CONSUMPTION AND EVERYDAY LIFE 26 (2006); Ackerman, *supra* note 81, at 149 (suggesting that the simplifying assumption that tastes are exogenous, or determined outside the realm of economics, bears little resemblance to reality).

105. See SCHNAIBERG, *supra* note 99, at 187–88.

106. *Id.* 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).

107. 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).

108. See PATERSON, *supra* note 104, at 27; STOREY, *supra* note 107, at 19–20 (discussing Herbert Marcuse’s theory of consumerism as a mechanism of social control).

advertising techniques, the manipulation critique nicely highlights the economic and political forces that drive consumption.¹⁰⁹ The critique, however, tends to overlook the concrete benefits of growth, the symbolic aspects of consumption, and individuals' ability to resist manipulation.¹¹⁰ Consumers can and do weigh competing product claims, and they use various sources of information to decide whether to buy a particular product.¹¹¹ Structural constraints nevertheless do limit individual choices and can complicate efforts to reduce consumption.¹¹² For example, for many Americans, the relative inconvenience of using public transportation eliminates the option of not having a car.¹¹³ 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.¹¹⁴

C. Consumption as Communication and Identity

While 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. Under these latter theories, 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.¹¹⁵ Anthropologists such as Mary Douglas have long observed that goods tell stories and function as a critical mode of communication

109. See GABRIEL & LANG, *supra* note 31, at 117 (describing evolution of the theory of the consumer as victim).

110. See PATERSON, *supra* note 104, at 29.

111. See FRANK, *supra* note 101, at 184–85.

112. See JACKSON, *supra* note 62, at 29.

113. See SCHNAIBERG, *supra* note 99, at 181–82.

114. See *id.*

115. See JACKSON, *supra* note 62, 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”).

within a culture.¹¹⁶ In anonymous urban environments, consumption provides a quick, readily observable, and increasingly important method of communication.¹¹⁷ Professor Tim Jackson has summarized: "We consume in order to identify ourselves 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."¹¹⁸ Rather than being a form of manipulation, consumption becomes a means by which individuals choose and express identity.¹¹⁹ In common with the rational choice theory of consumption, this view of 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.¹²⁰ 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.¹²¹ While some consumption involves subsistence or physical comfort, most consumption, according to Veblen, is driven by the desire to make "invidious distinctions."¹²² Property, in short,

116. MARY DOUGLAS & BARON ISHERWOOD, *THE WORLD OF GOODS* 56-70 (1979) (noting on page sixty that understanding the dual role of goods "in providing subsistence and in drawing the lines of social relationships" is "practically axiomatic amongst anthropologists"); *id.* at 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 JUDGMENT 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 107, at 42-43.

117. See FRANK, *supra* note 101, 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); PATERSON, *supra* note 104, at 21.

118. Jackson, *supra* note 62, at 31; cf. JOHN URRY, *THE TOURIST GAZE* 149 (1990) ("Malls represent membership of a community of consumers.")

119. 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 presence and absence of taste.")

120. See PATERSON, *supra* note 104, at 19.

121. See Thorstein Veblen, *Pecuniary Emulation*, in *THE CONSUMPTION READER*, *supra* note 87, at 233-34.

122. *Id.* at 234.

serves as a basis of popular esteem, class differentiation, and self-respect.¹²³ Consumption of particular goods may signal not only one's social class, but also one's ability.¹²⁴ 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.¹²⁵

Expanding on Veblen's theory, Georg Simmel explained changing consumption patterns and rising consumption levels in terms of a dynamic of social emulation.¹²⁶ 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.¹²⁷ Indeed, all positional goods—goods that signify ability, social status, or power—are subject to the same dynamics of escalation.¹²⁸

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.¹²⁹ Furthermore, theories that explain consumption in terms of communication are incomplete in that they do not account for consumption that occurs outside of the public eye and that therefore has no communicative role.

Such nonpublic consumption reminds us that consumption can also serve to fashion individual 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

123. *Id.* at 236.

124. See FRANK, *supra* note 101, at 149–50, 153.

125. See *id.* at 149–50, 153.

126. See Colin Campbell, *The Desire for the New: Its Nature and Social Location as Presented in Theories of Fashion and Modern Consumerism*, in CONSUMING TECHNOLOGIES: MEDIA AND INFORMATION IN DOMESTIC SPACES 48, 50 (Roger Silverstone & Eric Hirsch eds., 1992).

127. See PATERSON, *supra* note 104, 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); cf. STOREY, *supra* note 107, at 6.

128. See JACKSON, *supra* note 62, at 27.

129. See STOREY, *supra* note 107, at 42 (summarizing Colin Campbell's criticism of emulation theory).

explanation, based on terror management theory,¹³⁰ posits that the awareness of mortality leads to the pursuit of death transcendence through consumption.¹³¹ 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.”¹³² 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,¹³³ it does seem to explain at least some nonessential consumption across a range of cultures and historical periods.¹³⁴

D. Pursuit of Pleasure and Experience

To some degree, unprecedented levels of consumption reflect the ascendancy of a hedonistic moral philosophy centered on the aesthetic qualities of commodities.¹³⁵ 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,¹³⁶ and that the process of searching for and acquiring an item can itself be pleasurable.

Sociologist Colin Campbell contends that consumers' relationships with objects follow a cycle of romanticization: the

130. 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., *supra* note 53, at 132.

131. See *id.* at 128.

132. *Id.* at 134; cf. TENNESSEE WILLIAMS, *CAT ON A HOT TIN ROOF* 73 (New Directions Books 1955) (1954) (“[T]he 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!”).

133. See Aric Rindfleisch & James E. Burroughs, *Terrifying Thoughts, Terrible Materialism? Contemplations on a Terror Management Account of Materialism and Consumer Behavior*, 14 J. CONSUMER PSYCH. 219, 220 (2004).

134. See Jamie Arndt et al., *The Urge to Splurge: A Terror Management Account of Materialism and Consumer Behavior*, 14 J. CONSUMER PSYCHOL. 198, 203–04 (2004).

135. See GABRIEL & LANG, *supra* note 31, at 100 (“[Consumerism] celebrates the diversity of pleasures to be obtained from commodities, proposing such pleasures as realistic, attainable goals of everyday life.”).

136. The popular line of products designed by architect Michael Graves for the retailer Target makes this point. See Reinhardt Krause, *Following Form and Function; Blueprint for Success: Michael Graves Brings High Design to the Masses*, INVESTOR’S BUS. DAILY, Aug. 5, 2004, at A03.

consumer originally expresses desire for an object through pursuit in the marketplace and consummates that desire through acquisition and use, but the consumer later experiences disillusionment with the object, followed by a renewed desire for new objects.¹³⁷ 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.¹³⁸ 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.¹³⁹ Ultimately, Campbell’s theory provides 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.”¹⁴⁰

A related psychological explanation for consumption involves curiosity—the desire to encounter new pleasures and experiences.¹⁴¹ 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.¹⁴² Under this theory, the consumer is an explorer of goods and marketplaces: whether browsing through a mail-order catalog, bargain-hunting at a shopping mall, or wandering through other “cathedrals of consumption,” such as amusement parks and tourist resorts.¹⁴³ Even more exotic opportunities for exploration are now readily available through the Internet.¹⁴⁴ The exploratory aspect of consumption involves not only drawing distinctions between products and discerning what is new,

137. See CAMPBELL, *supra* note 79, at 90.

138. See *id.* at 92–94.

139. See MILES, *supra* note 31, at 152–53.

140. GABRIEL & LANG, *supra* note 31, at 116.

141. See *id.* at 67.

142. See Campbell, *supra* note 126, at 55.

143. See GABRIEL & LANG, *supra* note 31, 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. *Id.*

144. See *id.* at 65 (noting that such exploratory possibilities are not limited to shopping).

but also interacting with objects after they are purchased.¹⁴⁵

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.¹⁴⁶ 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.¹⁴⁷ Nonetheless, many consumer behavior researchers find imagination and daydreams to be a more compelling explanation for consumption than classical economists' model of rational economic actors.¹⁴⁸

IV. TOOLS TO ADDRESS CONSUMPTION

Despite the growing awareness of consumption's environmental consequences, consumption is largely unaddressed by the law. This is not for an absence of proposals. This Part provides a brief overview of conventional approaches for reducing 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 environmental impacts have focused primarily on manufacturers rather than consumers as their regulatory targets. 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

145. See *id.* at 73.

146. See *id.* at 76 (observing that modern consumption often involves repeated encounters with familiar brands, such as McDonald's).

147. See *id.* at 76-77; *id.* at 109 ("It would be bizarre to envisage a single mother shopping for her weekly groceries as lost in a reverie of pleasure.").

148. See Mike Molesworth & Janice Denegri-Knott, *The Pleasures and Practices of Virtualised Consumption in Digital Spaces*, 2005 DIGITAL GAMES RES. ASS'N CONF.: CHANGING VIEWS—WORLDS IN PLAY 3, <http://ir.lib.sfu.ca/retrieve/1573/4317e757ca15ad7b81d491dcba70.doc>.

vehicle fuel economy standards, move beyond wastestream regulation into constraining product design.¹⁴⁹ 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.¹⁵⁰ The elimination of subsidies that promote overexploitation of resources by producers can also reduce economically inefficient consumption.¹⁵¹

Producer-oriented measures also may involve the redesign or refinement of production processes to reduce energy and raw material needs.¹⁵² Life cycle analysis—an analysis of the full environmental impacts of a product, from the extraction of raw material inputs to disposal of the used good¹⁵³—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.¹⁵⁴

As many corporations have discovered, greater efficiency in energy use, resource use, and waste generation often makes economic sense.¹⁵⁵

Extended Producer Responsibility (EPR) initiatives exemplify

149. See Salzman, *supra* note 13, at 1261–62 (discussing laws mandating product performance or product content).

150. See Thomas Sterner, *Policy Instruments for a Sustainable Economy*, in *ECONOMIC POLICIES FOR SUSTAINABLE DEVELOPMENT* 6, 12, 16 (Thomas Sterner ed., 3d ed. 1994).

151. See Douglas A. Kysar, *Law, Environment, and Vision*, 97 NW. U. L. REV. 675, 705–08 (2003) (describing environmentally harmful subsidies that could be eliminated).

152. See Bradley A. Harsch, *Consumerism and Environmental Policy: Moving Past Consumer Culture*, 26 *ECOLOGY L.Q.* 543, 554 (1999).

153. See SCI. APPLICATIONS INT'L CORP., *LIFE CYCLE ASSESSMENT: PRINCIPLES AND PRACTICE* 1–3 (2006), <http://www.epa.gov/ORD/NRMRL/lcaccess/pdfs/600r06060.pdf>.

154. See, e.g., Jacquie Burgess, *Sustainable Consumption: Is It Really Achievable?*, *CONSUMER POL'Y REV.*, May/June 2003, at 78, 81–82 (describing programs in which nonprofit organizations work with senior management of major companies in reducing waste and in reducing consumption of natural resources).

155. *Super Recycling*, *BUS. WK.*, Dec. 18, 2006, at 102 (noting increasing appeal of remanufacturing used goods, given high material and energy costs); Olga Kharif, *Earth's Best Friend: Corporate America?*, *BUS. WK. ONLINE*, May 1, 2003, http://www.businessweek.com/technology/content/may2003/tc2003051_4006_tc108.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.”).

such efforts to encourage a full accounting of environmental impacts.¹⁵⁶ Voluntary EPR programs involving take-back and reconditioning of used products are in place at major corporations such as Xerox and DuPont,¹⁵⁷ while legislated measures include bottle bills and electronic waste recycling programs.¹⁵⁸ Such programs not only can divert waste away from landfills, but also can promote reuse, recycling, and environmentally friendly design of products and packaging.¹⁵⁹ 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.”¹⁶⁰ Indeed, the same can be said of almost all producer-oriented measures. If real changes are to occur, our society must consider consumer-oriented measures as well.¹⁶¹

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.¹⁶² The notion of consumer sovereignty has become deeply entrenched in American culture, making any proposal that might impinge upon it politically problematic.¹⁶³ Such measures challenge lifestyles, norms, and popular conceptions of liberalism and individual freedom.¹⁶⁴ Thus, it is unlikely that sumptuary laws—laws that directly prohibit consumption of luxury goods—will enjoy a

156. See Salzman, *supra* note 13, at 1270.

157. See *id.* at 1290–91.

158. See *id.* at 1270–71. California’s Electronic Waste Recycling Act provides for the collection of an electronic wastes recycling fee at the point of sale and the distribution of payments to entities that collect and recycle such wastes. CAL. PUB. RES. CODE § 42460 (West 2007).

159. See Salzman, *supra* note 13, at 1274.

160. *Id.* at 1280.

161. *Id.* at 1267–68 (“Reducing levels of consumption . . . is a more direct approach [than reducing patterns of consumption], but more difficult as well.”).

162. Daniel A. Farber, *Controlling Pollution by Individuals and Other Dispersed Sources*, 35 ENVTL. L. REP. 10,745, 10,745 (2005); Harsch, *supra* note 152, 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”).

163. See *supra* Part III.A.

164. Salzman, *supra* note 13, 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”).

resurgence.¹⁶⁵ Similarly, rationing and other measures that directly limit consumer choice will not receive serious consideration in the absence of a public sense of crisis.¹⁶⁶

I. 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 overhaul of the U.S. tax system from one based on income to one based on consumption.¹⁶⁷ Although such proposals often focus on non-environmental goals such as promoting savings and investment,¹⁶⁸ some proposals distinguish between different types of consumption, imposing higher levies on goods that have greater negative environmental impacts.¹⁶⁹ These proposals seek primarily to shift consumption toward more eco-friendly goods, rather than to reduce overall consumption.¹⁷⁰ Obstacles to the enactment of such tax schemes include the administrative complications of determining a particular good's environmental impact,¹⁷¹ and more significantly, deep-rooted economic policies that promote consumption as a critical element of economic growth.¹⁷²

165. 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).

166. See HUNTER ET AL., *supra* note 7, at 66.

167. 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. LAURENCE S. 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 165, at 211–19 (proposing “progressive consumption tax”).

168. See SEIDMAN, *supra* note 167, at 3.

169. See, e.g., Johan Albrecht, *The Use of Consumption Taxes to Re-launch Green Tax Reforms*, 26 INT’L REV. L. & ECON. 88, 94 (2006).

170. 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).

171. See Albrecht, *supra* note 169, at 94–96 (noting administrative complications, but suggesting the use of simplified classification schemes to provide a rough basis for setting tax rates).

172. See *id.* at 99; Salzman, *supra* note 13, at 1260 (noting a “paradox inherent in government taking any action that might reduce consumption, for governments presumptively

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.¹⁷³ Taxes could also be imposed on the use or ownership of luxury goods, status goods, or other nonessential items.¹⁷⁴ Even tax proposals limited to specific classes of goods, however, frequently encounter stiff political opposition.¹⁷⁵

Consumption might also be reduced through the elimination or reform of subsidies that promote practices associated with high levels of consumption, such as urban sprawl.¹⁷⁶ 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.¹⁷⁷ Eliminating such subsidies is often difficult, however, because of the benefit they provide to powerful interests and constituencies.¹⁷⁸

Alternatively, 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.¹⁷⁹ Renting and sharing schemes, such as car-share programs and tool lending libraries, also

should promote consumption in order to *increase economic growth*”); see also *supra* text accompanying notes 92–94.

173. See Mona L. Hymel, *The Population Crisis: The Stork, The Plow, and the IRS*, 77 N.C. L. REV. 13, 124–28 (1998); William D. Nordhaus, *Global Warming Economics*, 294 SCI. 1283, 1284 (2001) (suggesting that it would be preferable to redesign the Kyoto Protocol to incorporate a globally harmonized consumption tax). See generally David Pearce, *The Role of Carbon Taxes in Adjusting to Global Warming*, 101 ECON. J. 938 (1991).

174. See, e.g., Hymel, *supra* note 173, 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).

175. Barton H. Thompson, Jr., *Conservative Environmental Thought: The Bush Administration and Environmental Policy*, 32 ECOLOGY L.Q. 307, 337–38 (2005) (contrasting the Bush Administration’s distaste for environmental fees and taxes with support of politically more popular subsidies of conservation programs).

176. See, e.g., *id.* at 325 (discussing federal subsidies that contribute to environmental damage); WORLDWATCH INST., *supra* note 21, at 98–99 (criticizing environmentally destructive subsidies and uncompensated externalities).

177. Hymel, *supra* note 173, at 113–22.

178. Thompson, *supra* note 175, at 325 (“[S]ubsidy recipients generally are well organized and typically have strong congressional support.”).

179. See Sanne, *supra* note 70, at 284.

may reduce consumption.¹⁸⁰

Other economic proposals aim at the role of consumer credit in fueling consumption.¹⁸¹ Credit cards, installment plans, and home equity loans enable and encourage consumers to upgrade their standard of living by consuming now, even if doing so is beyond their means.¹⁸² Tightening lending standards or restricting predatory lending practices are possible responses, although the banking industry, and possibly consumer groups, would likely oppose such measures.¹⁸³

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.¹⁸⁴ As sociologist Juliet Schor contends, gains in economic productivity have generated increased output and income, which in turn have fed growth in consumption.¹⁸⁵ Under her proposal, productivity gains would be directed instead towards reduced work hours.¹⁸⁶ 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 better environmental quality.¹⁸⁷

180. *See id.*

181. *See generally* Maurie J. Cohen, *Consumer Credit, Household Financial Management, and Sustainable Consumption*, 31 INT'L. J. CONSUMER STUD. 57 (2007).

182. *Id.* at 59; FRANK, *supra* note 165, at 45–47 (describing growth of consumer debt, particularly among low-income Americans).

183. *See* Cohen, *supra* note 181, at 63 (noting attention focused on consumers' individual obligation to exercise greater financial prudence, rather than on lending practices of banking industry).

184. *See generally* Juliet B. Schor, *Sustainable Consumption and Worktime Reduction*, 9 J. INDUS. ECOLOGY 37 (2005); Sanne, *supra* note 70, at 285.

185. *See* Schor, *supra* note 184, at 44–45.

186. *Id.* at 40.

187. SCHOR, *supra* note 54, at 107–38 (criticizing “insidious cycle of work-and-spend”). 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* Sanne, *supra* note 70, at 285.

Such a scheme, which could be implemented through voluntary action, firm-level incentives, or mandatory restrictions,¹⁸⁸ is likely to encounter resistance both from business and government interests that traditionally have promoted economic growth and from individuals reluctant to experience reductions in current income.¹⁸⁹ To address these concerns, Schor advocates only a stabilization, rather than a reduction, of consumption levels.¹⁹⁰ Work-time reduction nonetheless would require significant changes in the employer-employee relationship and in cultural values that tend to glorify long working hours.

Informational tools offer 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 provide consumers with such information indirectly.¹⁹¹ 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.¹⁹²

Although green consumerism has stimulated the development of a market for environmentally sound products, its effect on overall consumption levels is less clear.¹⁹³ Labels may be competing, confusing, or misleading, and the volume and nature of information provided may be overwhelming.¹⁹⁴ Even when consumers absorb the information that labels and warnings convey, they may only shift

188. The adoption of a mandate that workers be paid time-and-a-half for overtime hours, for instance, reduces companies' use of overtime hours. Daniel S. Hamermesh & Stephen J. Trejo, *The Demand for Hours of Labor: Direct Evidence from California*, 82 REV. ECON. & STAT. 38, 41 (2000).

189. Schor, *supra* note 184, at 45-46.

190. *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 70, at 285.

191. *See* Salzman, *supra* note 13, at 1263-65.

192. *See* Harsch, *supra* note 152, at 555.

193. *See* DURNING, *supra* note 15, 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 our part."); GABRIEL & LANG, *supra* note 31, at 166-68 (describing green consumerism movement); Burgess, *supra* note 154, at 80 (explaining why provision of "information is necessary, but not sufficient, to ensure that an environmentally sustainable decision is made").

194. *See* Clifford Rechtschaffen, *The Warning Game: Evaluating Warnings Under California's Proposition 65*, 23 ECOLOGY L.Q. 303, 316-40 (1996) (discussing limitations of information disclosure laws).

their consumption choices, rather than reduce their overall consumption.¹⁹⁵

To reduce overall consumption levels, campaigns could encourage consumers to buy fewer goods.¹⁹⁶ 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.¹⁹⁷ “Freegans” live off of consumer waste to minimize their ecological impact and to reduce their support of the corporate economy.¹⁹⁸ Such movements, however, have experienced little success in the past, and would require significant shifts in social norms and values.¹⁹⁹ Promoting changes in values through the law is unlikely to be any easier than through voluntary movements.²⁰⁰

Some commentators advocate a more direct attack on the tools that promote consumption—particularly advertising. Even if

195. Harsch, *supra* note 152, at 555–56 (“Even green consumerism fails to address the underlying causes of overall demand, seeking only to create preferences for environmentally friendly goods.”).

196. *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).

197. *See* DURNING, *supra* note 15, at 139–42; FRANK, *supra* note 165, at 188; *see also* GABRIEL & LANG, *supra* note 31, at 147 (describing Local Exchange Trading Systems that involve local bartering economies).

198. *See* Steven Kurutz, *Not Buying It*, N.Y. TIMES, June 21, 2007, at F1.

199. *See* DURNING, *supra* note 15, at 142, 145–46; FRANK, *supra* note 165, at 189–93 (contending that voluntary simplicity movement is unlikely to succeed because costs of unilaterally adopting a simpler lifestyle are often very high); Jackson, *supra* note 62, 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”).

200. *See* 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.”); ERIC A. POSNER, LAW AND SOCIAL NORMS 8 (2000) (“[S]ocial 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); Salzman, *supra* note 13, at 1269 (“[T]he law is far more effective in changing the technology of consumer goods . . . than the cultural values underlying the consumption of those goods . . .”). *But see* Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 354 (1997–1998) (“[A]rguably 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”).

advertising is unsuccessful in selling a particular product, traditional marketing techniques promote consumption as a pathway to happiness and solving life's problems.²⁰¹ Possible measures to counteract advertising run the gamut from public service announcements to the imposition of taxes or outright bans on advertising that promotes consumption.²⁰² The United States, however, is unlikely to adopt more coercive measures because of their potential to run afoul of First Amendment protections for commercial speech.²⁰³ Public education campaigns that encourage individuals "to be citizens rather than mere consumers"²⁰⁴ pose less of a problem from a constitutional perspective. 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.²⁰⁵

V. 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 current consumption practices, or will they, like some other technologies, fail to deliver on promises of a less resource-intensive future? To investigate these questions, this

201. See DURNING, *supra* note 15, at 119.

202. See Harsch, *supra* note 152, at 604 (suggesting government funding of "uncommercials" and "subvertisements" designed to counteract advertising messages); Mona L. Hymel, *Consumerism, Advertising, and the Role of Tax Policy*, 20 VA. TAX REV. 347, 444-53 (2000) (advocating tax on advertising revenue and elimination of deduction for advertising expenses); Sanne, *supra* note 70, at 284.

203. See *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 525, 528-29 (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."); *Cent. 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). Enacted restrictions on advertising are generally limited to deceptive advertising and harmful products such as cigarettes.

204. Harsch, *supra* note 152, at 609.

205. See *id.*

Part first describes how virtual worlds work, using Second Life as a prototype, and then analyzes their viability as a substitute for traditional, real-world consumption.

A. Second Life

Second Life, according to its website, “is a 3-D virtual world entirely built and owned by its Residents,” and is “a vast digital continent, teeming with people, entertainment, experiences and opportunity.”²⁰⁶ Sometimes described as “an animated version of real life,”²⁰⁷ 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 that 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.²⁰⁸ 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.²⁰⁹

206. Second Life, What is Second Life?, <http://secondlife.com/whatis/> (last visited May 17, 2007).

207. Annalee Newitz, *Your Second Life Is Ready*, POPULAR SCI., Sept. 2006, at 74, 76.

208. See James Harkin, *Get a (Second) Life*, FIN. TIMES REP., Nov. 18, 2006, <http://www.ft.com/cms/s/0/cf9b81c2-753a-11db-aea1-0000779e2340.html> (providing basic instructions for getting started and getting around in Second Life).

209. 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.²¹⁰ 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.²¹¹ 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 for ordinary people with no special technical knowledge or interest.²¹² And in contrast to most other

210. See, e.g., Harkin, *supra* note 208 (“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., May 9, 2007, at 2 (reporting analyst’s comment that “virtual worlds such as Second Life are not games, but neither are they a parallel universe yet”).

211. Edward Castronova, *The Right to Play*, 49 N.Y.L. SCH. L. REV. 185, 198–99 (2004).

212. See Newitz, *supra* note 207, at 78 (noting easy-to-use building tools in Second Life, aimed at attracting a broad demographic); Reena Jana & Moon Ihlwan, *The New Avatar in Town*, BUS. WK., Mar. 26, 2007, at 42 (describing growth of Second Life competitors targeted to broader audiences). While no specialized knowledge is necessary to participate in Second

virtual worlds and online virtual reality games, Second Life participants are permitted by the program's Terms of Service to retain some intellectual property rights in their creations.²¹³ This limited right of ownership has contributed to a growing economy within Second Life having significant real-world value.²¹⁴

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 between 30,000 to 40,000.²¹⁵ One online research firm predicts that eighty percent 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.²¹⁶ While participants use Second Life primarily for socializing purposes,²¹⁷ Second Life is far more than the latest version of an Internet chat room. Users trade millions of U.S. dollars worth of Linden dollars on Second Life's currency exchange each month,²¹⁸ and the GDP of Second Life was estimated at \$64 million (in U.S. dollars) as of September 2006.²¹⁹ One resident, Anshe Chung, has

Life, it can be frustrating to use for beginners and those of a "non-technical disposition." Harkin, *supra* note 208.

213. See Second Life Terms of Service § 3.2, <http://secondlife.com/corporate/tos.php>.

214. See Alan Sipress, *Where Real Money Meets Virtual Reality, The Jury Is Still Out*, WASH. POST, Dec. 26, 2006, at A1 (reporting that Linden Lab executives made conscious decision to grant intellectual property rights based on belief that "users needed clear ownership rules for economic activity to thrive"); Cory Ondrejka, *Aviators, Moguls, Fashionistas and Barons: Economics and Ownership in Second Life*, at 2 (2004), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=614663 (contending that allowing customers to retain intellectual property rights has been critical to rapid development of user-created content in Second Life). Of course, as a virtual economy filled with virtual property, Second Life is susceptible to virtual manipulation. For example, a program known as CopyBot enables Second Life users to duplicate virtual items with ease, overcoming Second Life's artificial scarcity and undermining the economics of virtual consumption. See Catherine Holahan, *The Dark Side of Second Life*, BUS. WK., Nov. 21, 2006, available at http://www.businessweek.com/technology/content/nov2006/tc20061121_727243.htm?ch an=search.

215. See Alana Semuels, *Virtual Marketers Have Second Thoughts About Second Life*, L.A. TIMES, July 14, 2007, at 1.

216. See Nurtall, *supra* note 210, at 2.

217. See Newitz, *supra* note 207, at 98.

218. Semuels, *supra* note 215, at 1; Posting of Meta Linden, to <http://blog.secondlife.com/2007/07/10/june-2007-metrics-published> (July 10, 2007, 10:00 PST) (reporting value of currency exchanged exceeding \$6 million (U.S.) in each month from March through June 2007).

219. See Newitz, *supra* note 207, at 75.

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.²²⁰ Collectively, the net worth of the global market in virtual items from virtual worlds such as Second Life is an estimated \$1.8 billion (in U.S. dollars).²²¹

Second Life has attracted the attention of corporate America and other interests, with dozens of companies establishing a corporate presence in Second Life.²²² Toyota, for example, made virtual models of its new Scion available for avatars to test-drive, and athletic shoe manufacturers sell shoes for avatars.²²³ 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,²²⁴ although some companies are beginning to use Second Life as a recruiting tool to perform screening interviews.²²⁵ Other powerful interests also have taken note of Second Life: lawyers have set up virtual legal practices in Second Life;²²⁶ political campaigns and rallies take place in Second Life;²²⁷

220. Paul Sloan, *The Virtual Rockefeller Anshe Chung Is Raking in Real Money In an Unreal Online World*, BUS. 2.0, Dec. 1, 2005, available at business2/business2_archive/2005/12/01/8364581/index.htm.

221. See Fairfield, *supra* note 5, 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.”); Julian Dibbell, *The Life of the Chinese Gold Farmer*, N.Y. TIMES MAG., June 17, 2007, § 6, at 36 (describing practice of “gold farming,” in which laborers play role-playing games to earn virtual currency). 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. Molesworth & Denegri-Knott, *supra* note 148, at 2, 6.

222. Lush, *supra* note 209, at 34.

223. *Id.*

224. See *id.* at 34, 36; Harkin, *supra* note 208 (reporting admission by corporate manager “that much corporate interest in Second Life is no more than a marketing gimmick”).

225. See Anjali Athavaley, *A Job Interview You Don’t Have to Show Up For*, WALL ST. J., June 20, 2007, at D1.

226. See Stephanie Francis Ward, *Fantasy Life, Real Law*, A.B.A. J., Mar. 2007, at 45–47; Patii Waldmeir, *Too Much Law Will Ruin Second Life*, FIN. TIMES, Apr. 25, 2007, at 12. Judge Richard Posner even delivered a lecture in Second Life. See Ward, *supra*, at 40, 44 (describing Posner’s guest appearance in Second Life to talk about his recent book).

227. See Fairfield, *supra* note 5, at 1060; Betsy Book, *Moving Beyond the Game: Social Virtual Worlds 10*, presented at State of Play 2 Conference (Oct. 2004), available at http://www.virtualworldsreview.com/papers/BBook_SoP2.pdf.

nonprofits are sponsoring events in Second Life;²²⁸ and the Jesuits have identified Second Life as fertile territory for evangelizing.²²⁹ A Congressional committee is studying whether transactions that take place in Second Life should be taxed,²³⁰ and participants who take cash out of virtual worlds are required to report any income from such endeavors to the IRS.²³¹

Educational institutions and private companies are also experimenting with Second Life as a learning tool. Because of its interactive nature, Second Life-based classes offer opportunities for collaboration and dialogue that are unavailable through Web-based classes.²³² Companies conduct training sessions and set up virtual conference rooms to hold meetings and exchange information.²³³ Second Life also facilitates modeling and experimentation without real-world consequences. For example, architecture students can create and demolish models of full-scale structures, and business students can set up virtual businesses.²³⁴

The current version of Second Life is far from perfect, and has drawn comparisons to the functional but still developing Web browsers that were available in the early 1990s.²³⁵ Expressing frustrations common to veteran participants and neophytes, one account of Second Life notes that “[i]ts graphics can be wooden and

228. See Lisa Selin Davis, *Click Here to Create a Better World*, ONEARTH, Spring 2007, at 12–13 (describing American Cancer Society virtual walkathon that raised \$40,000); Stephanie Strom, *Foundation with Real Money Ventures into Virtual World*, N.Y. TIMES, June 22, 2007, at A15.

229. See Paul Bompard, *Gospel 2.0: Jesuits Move into Second Life*, FT.COM, July 26, 2007, available at 2007 WLNR 14318238.

230. See Sipress, *supra* note 214, at A1. South Korea's equivalent of the IRS began collecting a value added tax on virtual transactions in June 2007. See Kim Phu, *Mo Money, Mo Problems: South Korea Taxes Virtual Assets*, Kotaku (Newstex Web Blogs), July 3, 2007, <http://kotaku.com/gaming/mo-money,-mo-problems/south-korea-taxes-virtual-assers-274772.php>.

231. See 26 U.S.C. § 61 (2000) (“Except as otherwise provided in this subtitle, gross income means all income from whatever source derived.”); see also Harkin, *supra* note 208.

232. Newitz, *supra* note 207, at 98.

233. *Id.*; Chris Nuttall, *Virtual Mirror on the Real World*, FIN. TIMES, Dec. 15, 2006, at 10, available at 2006 WL 21838492.

234. Newitz, *supra* note 207, at 98; see Andrea L. Foster, *The Avatars of Research*, CHRON. OF HIGHER EDUC. (D.C.), Sept. 20, 2005, at A35; available at <http://chronicle.com/weekly/v52/i06/06a03501.htm>. See generally Caroline Bradley & A. Michael Froomkin, *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).

235. See Nuttall, *supra* note 233, at 10.

cartoonish compared with the latest games, [and] the service can be slow, difficult to navigate and often crashes.”²³⁶ Nevertheless, upcoming versions of Second Life will surely incorporate technical improvements and new features such as voice capabilities,²³⁷ and users will be able to choose from a wide range of virtual worlds in the future.²³⁸ Because virtual worlds are ultimately commercial enterprises, they will compete for users, offering different experiences and varying levels of governance and intellectual property rights.²³⁹

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.²⁴⁰

236. *Id.*; see also Robert Hof, *The Coming Virtual Web*, BUS. WK. ONLINE, Apr. 16, 2007,

http://www.businessweek.com/technology/content/apr2007/tc20070416_780263.htm?chan=search (noting that virtual worlds “still touch relatively few people’s lives, in no small part because they’re primitive and awkward to use”).

237. Nuttall, *supra* note 210, 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, *Snow Crash*. Cory Ondrejka, *Escaping the Gilded Cage: User Created Content and Building the Metaverse*, 41 N.Y.L. SCH. L. REV. 81, 87 (2004) (contending that creation of “a defensibly real, online world” equivalent to Stephenson’s *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 twenty-by-thirty foot storage space in reality, dwells in a huge mansion in the Metaverse. NEAL STEPHENSON, *SNOW CRASH* 24 (1992).

238. See, e.g., Adrian David Cheok et al., *Combining the Real and Cyber Worlds Using Mixed Reality and Human Centered Media*, PROC. OF THE 2005 INT’L CONF. ON CYBERWORLDS,

<http://ieeexplore.ieee.org/iel5/10580/33457/01587512.pdf?isnumber=33457&prod=CNF&arnumber=1587512&carSt=+8+pp.&ared=&carAuthor=Cheok%2C+A.D.%3B+Shang+Ping+Lee%3B+Wei+Liu%3B+James%2C+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).

239. 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. Chris Taylor, *Google Moves into Virtual Worlds*, CNNMoney.com, Dec. 14, 2006, available at http://money.cnn.com/2006/05/11/technology/business2_futureboy_0511/.

240. See David A. Bray & Benn R. Konsynski, *Virtual Worlds, Virtual Economies, Virtual Institutions* 7–8 (Soc. Sci. Research Network, Working Paper Abstract No. 962501, May 2007), available at <http://ssrn.com/abstract=962501> (click on the “Social Science Research Network” icon at the bottom of the page to download document); Kathleen Craig, *Making a Living in Second Life*, WIRED, Feb. 8, 2006, <http://www.wired.com/gaming/virtualworlds/news/2006/02/70153> (quoting Wharton School of Business professor Dan Hunter regarding globalization of services via virtual worlds).

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

[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.²⁴¹

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.²⁴² Ultimately, the prospects of virtual worlds depend on whether they offer a superior alternative to real life for spending time.²⁴³ A recent survey—finding “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”²⁴⁴—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

241. Edward Castronova, *On Virtual Economies*, GAME STUD., Dec. 2003, available at <http://www.gamestudies.org/0302/castronova/>; see also *Online Gaming's Netscape Moment?*, ECONOMIST TECH. Q., June 9, 2007, at 14 (discussing development of massive multiplayer online platforms that may serve as basis for future connectivity between different virtual worlds).

242. See CASTRONOVA, *supra* note 2, at 66.

243. See *id.* at 70–75.

244. Press Release, Univ. of S. Cal. Ctr. for the Digital Future, *Online World As Important to Internet Users as Real World?* (Nov. 26, 2006), <http://www.digitalcenter.org/pdf/2007-Digital-Future-Report-Press-Release-112906.pdf>; see also Robert K. Elder, *Creating a Virtual You*, SACRAMENTO BEE, Nov. 26, 2006, at D1 (reporting comment of user that online friends “are as important as the friends I have outside of Second Life”).

will grow up comfortable with the idea of interacting in virtual worlds.²⁴⁵ 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.²⁴⁶ No single theory completely accounts for modern consumption, but because the theories are not mutually exclusive, we need not settle on one dispositive rationale. Rather, each of the theories plausibly explains at least some consumptive behavior,²⁴⁷ and the application of these theories here will prove useful in analyzing the effectiveness of virtual consumption as an alternative to real 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 satisfactions equivalent—or superior—to 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

245. See Matt Richtel and Brad Stone, *For Not-Ready-For-MySpace-Girls, Dress Up and Diversions on the Web*, N.Y. TIMES, June 6, 2007, at C1 (describing growth of virtual worlds for children); LAWRENCE LESSIG, CODE 2.0, at 9 (2006) (“[F]or our kids, cyberspace increasingly is their second life.”).

246. See *supra* Part III.

247. Cf. MILES, *supra* note 31, 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 constrains and enables.”).

in Second Life to be equivalent to the satisfaction of spending money in real life. Going shopping is a popular activity in Second Life.²⁴⁸

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."²⁴⁹ 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 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.²⁵⁰

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. Another popular activity, building and furnishing virtual homes, highlights further attractions of virtual consumption. For many virtual homeowners, "the main real-world function of a Second Life house is as a tool for fantasy," where one is unconstrained by financial, physical, and practical limitations.²⁵¹

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.²⁵² 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

248. See Ondrejka, *supra* note 214, at 4.

249. Elder, *supra* note 244, at D1.

250. CASTRONOVA, *supra* note 2, at 177.

251. Seth Kugel, *A House That's Just Unreal*, N.Y. TIMES, Aug. 9, 2007, at F1.

252. See *supra* Part III.A.

consumption for real consumption. Consumer sovereignty theory, which promotes real consumption as a goal of economic policy,²⁵³ 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.”²⁵⁴

Although such users “will be creating new assets, with real economic value, in online worlds,” the products of their labor will not be reflected in GDP and other economic indices, which presently place no value on online assets.²⁵⁵ 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.”²⁵⁶ 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.²⁵⁷ 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

253. See *supra* Part III.A.

254. Edward Castronova, *On Virtual Economies* 28 (Ctr. for Econ. Studies and Ifo Inst. for Econ. Research, Working Paper Series No. 752, 2002), available at <http://ssrn.com/abstract=338500> (click on the “Social Science Research Network” icon at the bottom of the page to download document). Castronova goes on to note that such behaviors “are credible insofar as they represent entirely normal behavior on the part of a substantial fraction of the players of games like EverQuest.” *Id.* at 29.

255. *Id.*

256. *Id.* at 28–29.

257. See *infra* Part VI.B (discussing energy and material requirements to support computer use).

consumption, virtual worlds may simply serve as an additional avenue for manipulative practices. Companies may treat virtual worlds as little more than a new medium for advertising real-world products.²⁵⁸ Moreover, for much of the developing world, virtual consumption is far removed from the daily struggle for subsistence.²⁵⁹ Access to cutting-edge technology, or even to computers, is often limited to the wealthy or the educated elite.²⁶⁰

Although Second Life is designed to be used by persons without special technical skills, most participants are technologically savvy “early adopters.”²⁶¹ 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 who have “incomes over \$7,000 of purchasing power parity (an income measure adjusted for the buying power in local currency) . . . [and] are typically users of televisions, telephones, and the Internet.”²⁶²

Almost half of this consumer class lives in developing nations, and it is in these countries, particularly China and India, where the greatest potential for growth in consumption exists.²⁶³ 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.²⁶⁴ And in South Korea, participation in virtual worlds is surpassing television watching as a form of entertainment.²⁶⁵ Given this data, diverting expected growth in real consumption towards virtual consumption ultimately could provide an effective means of constraining the size of humanity’s

258. See Christopher Caldwell, *Virtue and Virtual Reality*, FIN. TIMES, Sept. 1, 2007, at 7 (contending that businesses view virtual worlds as new marketing opportunities).

259. In 1999, an estimated 2.8 billion people—forty percent of the world’s population—were living on less than two dollars a day, the minimum, according to the World Bank and the United Nations, for meeting basic needs. See WORLDWATCH INST., *supra* note 21, at 6.

260. See MILES, *supra* note 31, 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”).

261. See Nuttall, *supra* note 233, at 10.

262. See WORLDWATCH INST., *supra* note 21, at 6.

263. See *id.* at 6–7.

264. 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”).

265. Fairfield, *supra* note 5, at 1061; see also 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 deaths that result).

ecological footprint.

2. *Satisfying communication and symbolic purposes*

Consistent with rational choice theory, the preceding discussion suggests that virtual consumption can substitute for real consumption in satisfying individual desires to consume. Rational choice theory, however, does not provide a satisfying explanation as to *why* people consume. Rather, it accepts consumer preferences as given and essentially treats the 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. In other words, can virtual worlds satisfy the communicative and symbolic purposes of 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.²⁶⁶ 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.²⁶⁷ 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.²⁶⁸ 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,²⁶⁹ and involvement in online communities sometimes leads to offline actions.²⁷⁰ Indeed, the

266. See Book, *supra* note 227, at 2 (“Social [virtual] worlds really function more as large-scale online community centers that use elements of gaming in the service of a larger goal of developing a community.”).

267. See Castronova, *supra* note 211, at 188–89 (discussing cultural theorist Johan Huizinga's concept of a game as not involving moral consequences); cf. LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS* 31–34 (G.E.M. Anscombe trans., Basil Blackwell Ltd. 3d ed. 1989) (discussing concept of games).

268. See Newitz, *supra* note 207, at 78.

269. See Book, *supra* note 227; Davis, *supra* note 228.

270. See Univ. of S. Cal. Ctr. for the Digital Future, *supra* note 244 (reporting that “[m]ore than one-fifth of online community members take actions offline at least once a year that are related to their online community” and that almost two-thirds of online community

primary function of Second Life for many users is not to entertain, but to broaden their social lives.²⁷¹ In contrast to movies, television, and other forms of media broadcast to a passive audience, virtual worlds inherently involve interaction. And in contrast to the World Wide Web, where the human presence is generally minimal, virtual worlds involve interaction with other human beings.²⁷²

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.²⁷³ 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, however, extends far beyond such relatively straightforward applications. 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.²⁷⁴ 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 Life."²⁷⁵ Another user reports that when he

members who participate in social causes through the Internet were new to the causes when they began participating on the Internet).

271. See Newitz, *supra* note 207, at 98.

272. See Hof, *supra* note 236.

273. 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 233, at 10 (describing IBM's experimentation with different uses of Second Life).

274. The relationships formed in virtual worlds can seem quite real to participants. One survey of players of *Lineage*, a role-playing game, found that seventy percent 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*, 2005 DIGITAL GAMES RES. ASS'N CONF.: CHANGING VIEWS—WORLDS IN PLAY 3, available at <http://www.digra.org/dl/db/06278.34425.pdf>.

275. Elder, *supra* note 244; 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).

has a dispute with his real-world partner, he enters Second Life “to talk things through” with friends he has previously made online.²⁷⁶ 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.²⁷⁷ 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.²⁷⁸ A reexamination of Veblen’s theory of conspicuous consumption²⁷⁹ 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, conspicuous consumption is alive and well in Second Life, as avatars pursue McMansions, the latest fashions, and other luxury items in Second Life.²⁸⁰ On the other 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, nearly everyone in Second Life is young, sexy, and drives a luxury car.²⁸¹ In this milieu, status items become so commonplace that they may lose their social meaning. Yet closer examination reveals that even in Second Life, social and economic distinctions can proliferate, and virtual

276. See Steve Woodward, *Virtually Real*, PORTLAND OREGONIAN, Apr. 1, 2007, at O1.

277. See *supra* Part III.C.

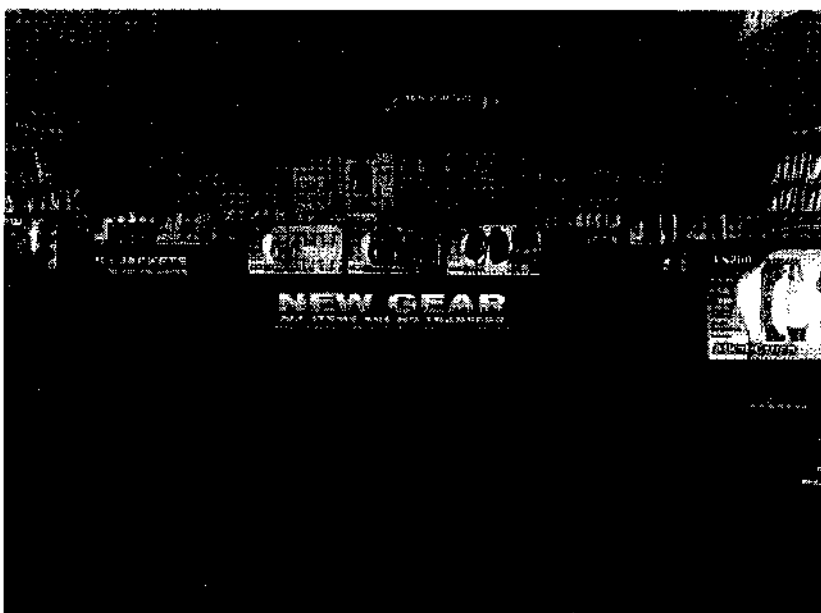
278. Cf. Sanne, *supra* note 70, at 285 (suggesting that promoting social interaction “can substitute for (some) status consumption because it would allow people to present themselves in other capacities [than as consumers]”).

279. See *supra* Part III.C.

280. See Shira Boss, *Even in a Virtual World, ‘Stuff’ Matters*, N.Y. TIMES, Sept. 9, 2007, Sunday Bus. Sec., at 1, 9.

281. See Douglas MacMillan, *Big Spenders of Second Life*, BUS. WK. Apr. 16, 2007, http://www.businessweek.com/technology/content/apr2007/tc20070416_386810.htm?chan=search (quoting a virtual-world marketing consultant’s claim that “[e]veryone [in Second Life] is a luxury consumer”).

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.²⁸² 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.²⁸³



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

282. See R.V. KELLY, MASSIVELY MULTIPLAYER ONLINE ROLE-PLAYING GAMES: THE PEOPLE, THE ADDICTION, AND THE PLAYING EXPERIENCE 62–63 (2004); see also Christopher Healy, *Hey, Man, Let's Play Video Game Dress-Up*, N.Y. TIMES, July 1, 2007, § 9, at 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”).

283. See Lastowka & Hunter, *supra* note 3, at 10 (quoting executive of *There*, a virtual world, saying that style and brand choices in a virtual world are logical extensions of such choices in the real world).

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.²⁸⁴ Such items, which participants can either purchase from other participants or create themselves, have attained status value because they require creativity and effort to produce.²⁸⁵ Grunge clothing, for example, is a status symbol because ripped and stained clothing is difficult to replicate digitally.²⁸⁶ As virtual worlds become increasingly important in people's lives, virtual consumption of items connoting status, however it is defined in virtual worlds, could begin to displace real-world status-driven consumption.

3. *Psychic satisfaction*

Virtual worlds serve as a diversion, of course. They nevertheless differ from non-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."²⁸⁷ 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.²⁸⁸ Yet the growing ranks of virtual world users, some of whom spend twenty to thirty

284. See MacMillan, *supra* note 281.

285. 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 240, at 6; See also Lastowka & Hunter, *supra* note 3, at 39 (discussing an incident in which a company paid unskilled Mexican laborers to play *Dark Age of Camelot*, and then sold the virtual assets they created).

286. See Boss, *supra* note 280, at 9.

287. Lastowka & Hunter, *supra* note 3, at 5.

288. See, e.g., Harkin, *supra* note 208 ("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.").

hours per week “in world,”²⁸⁹ as well as the introduction of millions of children to elementary versions, suggest a bright future for virtual worlds. For a rapidly expanding segment of the population, virtual worlds are becoming no more unreal, and no less important, than the physical world we all inhabit.²⁹⁰

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.²⁹¹

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 teal goods as reflective of a dynamic, romanticized relationship between consumers and objects.²⁹² 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,”²⁹³ 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,²⁹⁴ virtual world users enter a realm comprised of a similar combination of deceptions, myths, fantasies, and daydreams.²⁹⁵ And just as

289. 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).

290. See Univ. of S. Cal. Ctr. for the Digital Future, *supra* note 244 (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.”).

291. See GABRIEL & LANG, *supra* note 31, at 100 (acknowledging the overlap of needs and desires, but noting that desires, unlike needs, can be satisfied by a wide variety of means).

292. See *supra* Part III.D.

293. See CAMPBELL, *supra* note 79, at 89.

294. See PATERSON, *supra* note 104, at 72–74 (describing domination of experience at Disney theme parks by consumption, from shopping and eating to hotel accommodations).

295. See Lastowka & Hunter, *supra* note 3, at 8 (observing that “virtual worlds have

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.²⁹⁶ 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.²⁹⁷

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,²⁹⁸ experiences "more seductive and satisfying than the mundane experiences available in . . . shopping malls."²⁹⁹ To begin with, one's wealth, status, and appearance in the real world tend not to be limiting factors in virtual worlds.³⁰⁰ More importantly, in virtual worlds, one can take actions and risks without

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 example, the fact that some people fill online shopping baskets with items, only to abandon them, as well as the use of the "wish list" function on Amazon—where shoppers can store desired items in a personalized area—illustrate online shopping's ability to satisfy the daydreaming aspect of consumption. See Molesworth & Denegri-Knott, *supra* note 148, at 2, 5–6.

296. See Book, *supra* note 227, at 5.

297. See Kugel, *supra* note 251, at D1 (reporting comments by virtual homeowners regarding ease of redecorating or improving virtual homes).

298. 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).

299. Molesworth & Denegri-Knott, *supra* note 298, at 130–31.

300. See KELLY, *supra* note 282, 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"); Ketznel Levine, *Alter Egos in a Virtual World*, (NPR Broadcast Morning Edition, July 31, 2007), available at <http://www.npr.org/templates/story/story.php?storyID=12263532> (describing examples of virtual world users who have taken on avatars with physical appearances quite different from their real-world appearances); Molesworth & Denegri-Knott, *supra* note 298, at 130–31.

fear of adverse physical consequences.³⁰¹ 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.³⁰² 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.”³⁰³ Virtual worlds, in other words, “allow users to make their own stories.”³⁰⁴

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.³⁰⁵ 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

301. See KELLY, *supra* note 282, at 28.

302. See CASTRONOVA, *supra* note 2, at 72; KELLY, *supra* note 282, 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 298, at 124.

303. KELLY, *supra* note 282, at 64; see also Levine, *supra* note 300 (noting that MIT sociologist Sherry Turkle has described virtual worlds “as laboratories for the construction of identity”).

304. 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).

305. See *supra* Part IV.

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 virtual possessions easily between different virtual worlds.³⁰⁶ 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,³⁰⁷ 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).³⁰⁸ 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.³⁰⁹ 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.³¹⁰ 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

306. 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”).

307. Tax incentives might be designed to foster the creation of novel items in virtual worlds, for instance.

308. Balkin, *Virtual Liberty*, *supra* note 4, at 2049.

309. 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.”); Balkin, *Virtual Liberty*, *supra* note 4, at 2094–95; Fairfield, *supra* note 5, at 1050.

310. See, e.g., Balkin, *Virtual Liberty*, *supra* note 4, at 2045 (arguing that “legal regulation of virtual worlds is inevitable”). See generally Leslie Kurtz, *The Independent Legal Lives of Fictional Characters*, 1986 WIS. L. REV. 429 (analyzing legal protections for fictional characters under copyright law).

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.³¹¹ Extending property, tort, or criminal protections to virtual worlds may undermine their attractiveness to users as places of intrigue, escape, and freedom.³¹² Incorporating private property protections also may infringe upon the freedom of virtual world designers, stifling the evolution of virtual worlds.³¹³

Ultimately, virtual worlds, given their increasingly shifting and extraterritorial nature, may resist attempts to impose traditional law upon them.³¹⁴ Although a full discussion of these issues is beyond the scope of this Article, the analysis of virtual consumption here demonstrates the need to consider the full implications of online activity as we design legal institutions or import them into virtual worlds.³¹⁵

VI. 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,

311. See Clay Risen, *Taxing Virtual Economies*, N.Y. TIMES MAG., Dec. 10, 2006, at 77.

312. 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, “vitaly nourishes the creativity that our intellectual property laws aim to foster”).

313. See Richard A. Bartle, *Virtual Worldliness*, in THE STATE OF PLAY: LAW, GAMES, AND VIRTUAL WORLDS, *supra* note 304, at 31, 44–45.

314. See cf. Mayer-Schonberger & Crowley, *supra* note 1, at 1779–80 (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).

315. See generally THE STATE OF PLAY: LAW, GAMES, AND VIRTUAL WORLDS, *supra* note 304, and *supra* note 3 for citations to sources that discuss these issues in more detail.

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 [Second Life].”³¹⁶ 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.³¹⁷ Relatively few companies have capitalized on the marketing potential of virtual worlds thus far, but examples are beginning to appear.³¹⁸ 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 virtual pets.³¹⁹ 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.³²⁰ And ultimately, the general effect of virtual consumption may be to reinforce consumerist values and behaviors.³²¹

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.³²² Even milder

316. Newitz, *supra* note 207, 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. WK., Nov. 27, 2006, at 17 (reporting Linden Lab CEO’s future conception of Second Life as a 3-D Web browser in which one can buy real products in virtual shops).

317. See Balkin, *Virtual Liberty*, *supra* note 4, at 2067 (“[I]t is possible, if not likely, that many virtual spaces will effectively become shopping malls for both real and virtual goods.”); Hof, *supra* note 236.

318. See, e.g., Robert Lemos, *Second Life Figures Get a Life*, WIRED, Oct. 9, 2006, <http://www.wired.com/gaming/virtualworlds/news/2006/10/71878> (describing a start-up company that sells real versions of objects designed in Second Life).

319. See Bob Tedeschi, *Fuzzy Critters with High Prices Offer Lesson in New Concepts*, N.Y. TIMES, Mar. 26, 2007, at C4.

320. Molesworth & Denegri-Knott, *supra* note 148, at 6.

321. See Boss, *supra* note 280, at 1 (reporting remarks of commentator bemoaning replication of “consumerist, appearance-oriented culture” in Second Life).

322. 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,

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,³²³ while Reebok's virtual storefront was subjected to a nuclear bomb attack.³²⁴ Ultimately, users of virtual worlds have the power to choose another virtual world—or even to create their own.³²⁵ Although users may incur significant transaction costs in switching virtual worlds,³²⁶ competition between different virtual worlds³²⁷ makes it likely that users will abandon overly commercialized virtual worlds 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.³²⁸ 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.³²⁹ As economic activity migrates into virtual economies, tax bases may erode more quickly than the demand for government services—at least in the absence of taxes on virtual transactions.³³⁰ Companies that profit from real consumption, but who 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.³³¹

supra note 215, at 1 (describing difficulties faced by companies trying to market real-world products in Second Life).

323. Bray & Konsynski, *supra* note 240, at 24–25.

324. Semuels, *supra* note 215, at 1.

325. See *Online Gaming's Netscape Moment?*, *supra* note 241, at 14 (noting availability of free software for building and hosting a virtual world).

326. See Mayer-Schonberger & Crowley, *supra* note 1, at 1804–06 (noting that “[p]articipants in virtual worlds invest time and effort into acclimating to the software environment, exploring the virtual worlds, and building relationships with other participants,” but also observing that Second Life lowered switching costs by granting intellectual property rights in participants’ creations).

327. See *supra* text accompanying note 241.

328. See CASTRONOVA, *supra* note 2, at 255–56 (suggesting “significant political and social stress” as economic activity migrates to virtual worlds).

329. See Castronova, *supra* note 254, at 29–30.

330. *Id.* at 30.

331. See CASTRONOVA, *supra* note 2, at 255–56 (“[O]wners of assets whose value falls as synthetic world assets replace them will not be happy.”).

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. According to one study, the production of a single desktop computer requires approximately 240 kilograms of fossil fuels, 22 kilograms of chemicals, and 1,500 kilograms of water.³³² The production and disposal of electronic equipment also raise significant concerns regarding exposure to chemicals and hazardous materials.³³³ Over an entire life cycle, a computer consumes approximately the same amount of fossil fuel as a refrigerator.³³⁴

Compounding matters, technological equipment is susceptible to increasingly rapid obsolescence.³³⁵ Predicting the marginal resource effects of increased participation in virtual worlds, however, is a difficult and imprecise task.³³⁶ On the one hand, the advanced graphics interface of virtual worlds, which demands powerful computers and high-speed Internet connections, may drive purchases of the latest technology.³³⁷ 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

332. 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. See *id.* at 56–57. Although the increasingly popular liquid crystal display monitors are significantly smaller, their manufacture is more energy-intensive. See *id.*

333. See *id.* at 67.

334. *Id.* at 64.

335. See ERNEST BRAUN, *FUTILE PROGRESS* 42 (1995).

336. Cf. Klaus Fichter, *E-Commerce: Sorting Out the Environmental Consequences*, 6 J. INDUS. ECOLOGY 25, 27 (2002) (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).

337. See Robert D. Hof, *My Virtual Life*, *BUS. WK.*, May 1, 2006, at 72, 78.

purchase new hardware³³⁸ 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,³³⁹ and Internet use constitutes only about one percent of current U.S. electricity demand.³⁴⁰ 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.³⁴¹ Expectations that dematerialization would accompany this economic transformation,³⁴² however, have not been fulfilled.³⁴³ 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.³⁴⁴ Perhaps

338. See Clint Swett, *Faster Internet Hastens Change*, SACRAMENTO BEE, July 15, 2007, at A1.

339. See Williams, *supra* note 332, at 64.

340. See Danielle Cole, *Energy Consumption and Personal Computers*, in COMPUTERS & THE ENVIRONMENT: UNDERSTANDING AND MANAGING THEIR IMPACTS, *supra* note 332, at 131, 132; cf. Gregory M. Lamb, *New Push to Curb "Cyberwarming" from Computers*, CHRISTIAN SCI. MONITOR, June 14, 2007, at 4 (describing an initiative by technology companies to develop more energy-efficient equipment in light of a study indicating that computers account for about two percent of the world's carbon emissions).

341. See, e.g., DANIEL BELL, THE COMING OF POST-INDUSTRIAL SOCIETY 43 (1973) (describing the significance of the rise of post-industrial society).

342. 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).

343. 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").

344. See Iddo K. Wernick et al., *Materialization and Dematerialization: Measures and*

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.³⁴⁵ Since 1950, U.S. paper consumption has soared, quadrupling in terms of total volume and doubling on a per capita basis.³⁴⁶ 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.³⁴⁷

C. A Dark Side of Virtual Worlds?

While Second Life presents a myriad of potentially positive applications, it also has its share of potentially degrading influences.³⁴⁸ Perhaps the most troubling concerns posed by virtual worlds are the dangers of addiction, dehumanization, and detrimental effects on relationships and values. In one columnist’s words, Second Life is “98% stupid, overrun with sex clubs, discos, casinos, yard sales, tragic architecture, and more shopping malls than the San Fernando Valley.”³⁴⁹ Another observer, analogizing Second

Trends, DAEDALUS, Summer 1996, at 179–83 (noting the 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 342, at 16 (contending that data suggesting dematerialization overlooks various factors, including actual environmental impacts and potential for increased overall consumption, due to efficiency improvements).

345. See James Brooke, *The Paperless Office? Not by a Long Shot*, N.Y. TIMES, Apr. 21, 2001, at C1 (describing how technologies such as computers, laser printers, and digital photography have increased paper use).

346. See Wernick et al., *supra* note 344, at 172, 178–79. Paper consumption has exploded globally as well, increasing thirty-fold over the last century. See Wendy Vanasselt, *No End to Paperwork*, in WORLD RESOURCES 1998–99 (1998, updated 2001), available at http://earthtrends.wri.org/features/view_feature.php?fid=19&theme=9.

347. See David Morley, *Theories of Consumption in Media Studies*, in THE CONSUMER SOCIETY, *supra* note 81, at 262, 264 (discussing the relationship between media technologies and consumption).

348. See Harkin, *supra* note 208, at 21 (noting the 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”).

349. Dan Neil, *My Avatar*, L.A. TIMES, Mar. 4, 2007, at I54.

Life to “a seedy, derelict carnival,” found Second Life to be dominated by the “breakdown of inhibition,” resulting in “the triumph of amusement and distraction over meaning and purpose.”³⁵⁰ 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,³⁵¹ 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.”³⁵² The American Psychiatric Association has not officially recognized Internet addiction as a disorder,³⁵³ 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 alternative forms of social interaction or entertainment if virtual worlds were unavailable.³⁵⁴

350. Michael Gerson, *Where the Avatars Roam*, WASH. POST, July 6, 2007, at A15.

351. The number of active Second Life users declined for the first time ever in June 2007, although the total number of hours spent on Second Life continued to climb. See Adam Reuters, *Growth Slump Threatens Gloom for SL Businesses*, SECOND LIFE NEWS CENTER, July 12, 2007, <http://secondlife.reuters.com/stories/2007/07/12/growth-slump-threatens-gloom-for-sl-businesses/>.

352. Kimberly S. Young, *Internet Addiction: A New Clinical Phenomenon and Its Consequences*, 48 AM. BEHAV. SCIENTIST 402, 403, 405 (2004) [hereinafter Young, *Internet Addiction*]; see also KIMBERLY S. YOUNG, CAUGHT IN THE NET: HOW TO RECOGNIZE THE SIGNS OF INTERNET ADDICTION—AND A WINNING STRATEGY FOR RECOVERY 22 (1998) [hereinafter YOUNG, CAUGHT IN THE NET] (comparing behavior of Internet addicts with that of alcoholics).

353. See Dorsey Griffith, *When Playing Video Games Is an Obsession*, SACRAMENTO 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.*

354. See Brian D. Ng & Peter Wiemer-Hastings, *Addiction to the Internet and Online Gaming*, 8 CYBERPSYCHOL. & 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,

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.³⁵⁵ Unlike ordinary video games, which can become repetitive and boring, virtual worlds offer the prospect of continually new experiences and social interaction.³⁵⁶

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. The social and emotional aspects of virtual relationships, researchers are finding, often resemble the social and emotional aspects of real-world relationships.³⁵⁷ Virtual 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.³⁵⁸

The anonymity associated with virtual worlds, however, also allows users to create a virtual identity and existence divorced from reality.³⁵⁹ 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

“we cannot really tell whether they are addicted or just making an understandable choice”).

355. See KELLY, *supra* note 282, at 66; Ng & Wiemer-Hastings, *supra* note 354, at 110–11. Some users refer to MMORPGs generally as “heroinware,” and many players of the game *Everquest* refer to it as “Evercrack.” *Id.* 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.

356. See *id.* at 111.

357. See Alexandra Alter, *Is This Man Cheating on His Wife?*, WALL ST. J., Aug. 10, 2007, at W1.

358. See CASTRONOVA, *supra* note 2, at 257–58; cf. Mark MacWilliams, *Symbolic Resistance to the Waco Tragedy on the Internet*, NOVA RELIGIO: J. OF ALTERNATIVE AND EMERGENT RELIGIONS, March 2005, at 59 (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 352, at 95–107 (describing the Internet as a “faceless community” where online relationships sometimes turn out to be an “illusion”).

359. See Ng & Wiemer-Hastings, *supra* note 354, at 111.

profitable for their operators, operators will have a financial incentive to keep users “hooked” in virtual worlds as long as possible.³⁶⁰ If individuals become lost “to a space that, by any standard of human worth, dignity, and well-being is not good for them,”³⁶¹ 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.³⁶²

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,³⁶³ academic problems among students distracted by the Internet, poor employee performance, and health problems from decreased physical activity.³⁶⁴ Interactions with the real world and with others in person may decline,³⁶⁵ and relationships with real-world spouses, family members, and friends may suffer.³⁶⁶

Ultimately, virtual worlds may promote only an *illusion* of interactivity and community, while in actuality leaving an isolated and passive consumer.³⁶⁷ Even if the spending of substantial amounts of time in virtual worlds is the result of free-willed decisions rather than addiction, immersion in virtual reality still presents a troubling prospect.

360. See CASTRONOVA, *supra* note 2, at 238.

361. *Id.* Edward Castronova refers to such a state as “toxic immersion.” *Id.*

362. *See id.*

363. *See* Alter, *supra* note 357, at W1 (noting that family-law experts and marital counselors report “a growing number of marriages dissolv[ing] over virtual infidelity”).

364. *See* Young, *Internet Addiction*, *supra* note 352; Whang & Kim, *supra* note 274, at 5 (comparing two MMORPGs and finding that players in one game were far more likely to feel guilty if they role-played being in love with someone else, which suggests that such relationships are viewed as equivalent to real-world relationships); *see also* Peter Fimrite, *Children Detach From Natural World as They Explore the Virtual One*, S.F. CHRON., Oct. 22, 2007, at A1 (describing a growing concern that increasing childhood obesity is a direct result of a lack of outdoor activity, traceable in part to heavy use of electronic media).

365. *See* MILES, *supra* note 31, at 77 (“[C]omputers run the risk of making consumption increasingly passive.”).

366. *See* CASTRONOVA, *supra* note 2, at 256.

367. *See* MILES, *supra* note 31, at 88 (“[T]echnology continues to seduce us with an *illusion* of interactivity and liberation which in actual fact promotes the passivity of the consumer”); Neil, *supra* note 349, 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”).

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.³⁶⁸ Nozick imagines “an experience machine that would give you any experience you desired.”³⁶⁹ 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.”³⁷⁰

Nozick then asks whether one should choose to plug into this machine. Although an affirmative choice might give one feelings of happiness, Nozick ultimately rejects the experience machine:

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. . . .³⁷¹

Obviously, Second Life and other virtual worlds differ from Nozick’s experience machine (and even more dystopic visions such as that found in *The Matrix* films) in various ways, not the least of which is that they provide opportunities to interact with 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 communities³⁷² 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

368. ROBERT NOZICK, ANARCHY, STATE, AND UTOPIA 42–45 (1974).

369. *Id.* at 42.

370. *Id.*

371. *Id.* at 43. A somewhat less menacing machine of the same genre, the “orgasmatron,” appears in the Woody Allen film, *Sleeper*.

372. *See supra* note 290.

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.³⁷³ 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.³⁷⁴ Technology has had a tendency to foster social isolation by privatizing how we get information, how we do things, and how we entertain ourselves;³⁷⁵ 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 from the natural world.³⁷⁶ Virtual worlds might be especially distancing because they suggest the possibility of existence in realms apart from—and lacking the physical constraints of—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.³⁷⁷ Such experiences are incomplete substitutes for direct experience with nature, however, because they lack the immediacy and intimacy of real encounters with the natural world.³⁷⁸ Indeed, virtual world users might even develop a false sense that natural resources are unlimited,

373. 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.”).

374. 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”).

375. See Roberts, *supra* note 27, at A27 (quoting social scientist Robert D. Putnam regarding effects of technology on social bonds).

376. See Fimrite, *supra* note 364, at A1 (attributing much of decline in outdoor activity among youth to electronic media); 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).

377. See Davis, *supra* note 228, at 13.

378. See Holly Doremus, *Shaping the Future: The Dialectic of Low and Environmental Values*, 37 U.C. DAVIS L. REV. 233, 248 (2003).

and as a result consume those resources with even greater abandon.³⁷⁹ While concerns about virtual environments may sometimes translate into concerns about the real environment, such an outcome is hardly guaranteed.³⁸⁰ 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.³⁸¹

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.³⁸²

Second, environmental policy strategies often have long-term effects and require long-term commitments.³⁸³ 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.³⁸⁴ 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 with adequate protection of the resource base on which they rest, an outcome possible only through a proper valuing of the natural environment.

VII. CONCLUSION

Virtual worlds such as Second Life have the potential to serve as a valuable tool for addressing consumption and its associated

379. Cf. Caldwell, *supra* note 258, at 7 (noting technology's potential to widen the gap between a person's imagination and reality in dangerous ways).

380. See Davis, *supra* note 228, at 13 (describing the efforts of environmental nonprofits to use Second Life as a recruiting ground, but warning of danger "that some will remain more concerned about SL's environment than about the real one").

381. See LOUV, *supra* note 376, at 149-50 (noting that childhood experiences of nature are often the most formative influences for environmental concern); Doremus, *supra* note 378, at 244 (contending that "direct personal experience of nature promotes, and isolation from nature inhibits" development of environmental values).

382. See Doremus, *supra* note 378, 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 the importance of public understanding of values underlying environmental laws to the long-term efficacy of environmental policies).

383. See Doremus, *supra* note 378, 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").

384. See *id.* at 267-68.

environmental ills, but they 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 this new medium.

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 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.