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Written for an encyclopedia of consumption that was never published

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### Technology and Consumption

For the historian of technology, understanding consumption involves opening up the “black box” of technology as well as deciphering the cultural meanings of consumption. Only by doing so, does it become apparent how the material constraints of production and the practical considerations of use constrain what is consumed and how it is consumed at any given historical moment. Changing regimes of production resulting from industrialization are also marked in the nature of goods themselves: in materials, workmanship, meaning, and availability. In this version of the history of consumption, consumers are users of what they buy, active agents in the continual reshaping of the material world. Even today, long after the home had supposedly been transformed from a center of production to a center of consumption, consumers continue to transform both the cultural and physical uses of consumer goods long after the moment of purchase. Technological change has also altered the geography of consumption as well as the means through which ideas about consumption are communicated.

Five hundred years of European presence in North America encompass a remarkable transformation from a Colonial culture of scarcity, circumscribed by both cultural values and distant from centers of commercial production to the emergence in the late 19<sup>th</sup> century of a culture of abundance, and the 20<sup>th</sup> century exportation of American material culture to the rest of the world. We know from surviving household (probate) inventories that most inhabitants of the British colonies in North America owned very few material goods by the standards of later generations. Raw materials such as cloth,

thread, sugar, and lead for shot constituted the vast majority of purchases out of which householders manufactured objects for their own use. Other household goods such as metal tools, pots, furniture, and barrels might be made locally by specialized artisans but were too bulky to cart economically over more than short distances. Historian Brooke Hindle once characterized this period as “America’s wooden age.” Wood, easily shaped with hand tools and simple machines, lent itself to the productive techniques of the age. The surprising range of wooden consumer goods from wooden clocks to wooden toys were easily understandable and reproducible by users compared with the metal and later, plastic, objects that would replace them.

Because of the rarity of manufactured goods and the extraordinary expense and labor involved in their acquisition, consumers remade, reused, and resold consumer goods—not only extending their useful life, but also changing their utility and their meanings. A piece of cloth might be purchased to fashion into a dress, later remade to fit a child or a servant. Finally reduced to rags, it might be used to clean house and eventually traded to a ragman to become paper.

A slowly increasing trickle of goods manufactured in the distant workshops of Europe also found their way into the cupboards and closets of colonial households including, significantly not only the homes of the rich, but backwoods outposts and slave cabins of the South. These objects carried powerful meanings not only about aspirations to gentility and the emergence of a class system, but also about the political relationship between producers and consumers within the colonial system. They embodied the relationship between colonizer and colonized, center and periphery. For historians, surviving evidence such as shards of wedgewood pottery in frontier trash middens give

evidence of the extraordinary reach of even the earliest moments of the Industrial Revolution.

Popular revolutionary politics not surprisingly rejected the consumption of these objects and the meanings they embodied. Republican rhetoric argued for both the development of domestic manufactures and a consumer boycott of British made goods during both the Revolution and the War of 1812. Genteel patriots brought out their grandmothers' spinning wheels and wrapped themselves in homespun for the duration, consciously rejecting the relations of consumption of the colonial system. Unlike their descendants, they were still possessed the skills that afforded them this choice.

But even at the farthest reaches of the newly formed nation, such a return to an earlier regime of production and consumption was not to last. Historians have coined the term "market revolution" to describe the far-reaching changes characterizing ante-bellum America in the aftermath of the War of 1812. The full-blown emergence of a domestic factory system, a new network of roads, canals and, after 1832, railroads, and other complex changes not only transformed production but also changed what and how Americans consumed. Technological enthusiasm became a defining American characteristic as more and more people defined themselves as inventors, flooding the patent office with plans for better ways to do everything from manufacture textiles to protect houses from lightning. Part of that enthusiasm sprung from recognizing the possibility of commodifying what people had once done for themselves or what they had not yet recognized they needed to do at all.

Consumers responded in kind, taking "new and improved" as their creed. Nowhere was this more apparent than in the middle-class household. Housewives whose

grandmothers had cooked supper in a single pot in an open hearth, found themselves preparing a roast, two vegetables, pickles, pie and bread on a cast-iron stove purchased from a distant manufacturer. Yet while each newly available implement used in domestic labor—the cherry pitter, eggbeater, and Mason jar sped individual parts of the process, they did not lead to an overall decline in the time invested in housework. The same was true for cleaning, as new tools helped women cope with rising standards of cleanliness and the exponentially volume of bric-a-brac, heavily upholstered furniture, linens, clothing, etc., churned out by eager manufacturers.

New manufacturing methods also led to profound confusion about the cultural meanings of objects worn, displayed, and used by consumers. Smoothness, complexity in workmanship, and bright colors had once signified rare materials and difficulty in manufacture—hence expense and rarity. Machine manufacture flooded the market with fantastically carved and decorated objects churned out quickly and sold cheaply. As Mark Twain's *Connecticut Yankee* transported back to medieval England famously remarks that he misses the chromolithographs that decorated his late 19<sup>th</sup> century American home. Following the lead of the English Arts and Crafts movement, American intellectuals decried the dehumanizing effects of making and living with such objects. They tried to redefine good taste as the appearance (if not always the reality) of being hand, rather than machine, made out of materials that revealed their natural origins.

Manufacturers who committed themselves to machine production also found themselves faced with a new dilemma: the limits of consumption had long rested on the manufacturer's ability to produce quickly and cheaply enough to satisfy market demand. Machine production allowed manufacturers the potential to flood the market with more

goods than consumers could possibly absorb. In the late 19<sup>th</sup> century, this led increasing numbers of manufacturers to turn to new marketing techniques intended to give them leverage in an already saturated marketplace. Through increasingly sophisticated forms of advertising, they asked consumers to choose between products on the basis of brand-name as well as to buy products they had not previously known they wanted.

These new marketing methods depended upon both cultural and technological innovation. Branding, for instance, was made possible, in part, by new packaging techniques that allowed manufacturers to economically box items such as crackers that had previously been sold in bulk. A revolution in printing techniques created a cost-effective medium for advertising these goods on chromolithographed trade cards and in newspapers and magazines printed on cheap, wood-pulp paper and printed with steam-powered presses intended to be used once and then discarded. Efficient transportation networks distributed goods quickly and cheaply enough to make national markets in cheap goods possible and profitable—a potential recognized not only by manufacturers but also by a new group of entrepreneurs, personified by Sears and Roebuck, who defied the bounds of time and space that defined traditional retailing.

By the 1920s, this new style of consumption was in full swing. The spread of domestic electrification added a new dimension as middle class consumers rushed out to purchase electrical appliances. Electrification and other technological innovations aided in the commodification of leisure and entertainment. Radio and movies were not only commodities that could be purchased but could, in turn, be used as a medium for selling other kinds of goods. The spread of the automobile typifies the complex dimensions of this process. Henry Ford's 1912 introduction of a vastly cheaper, assembly-line produced

model T , transformed a rich man's toy into an everyday necessity. Automobiles were not only objects of consumption and of themselves, but they also transformed the geography of consumption in particular giving rural people much easier access shopping while gradually eliminating services such as home delivery.

Ford himself only partly understood the nature of this new consumer society. He concentrated his efforts on efficiency in production, gradually lowering the price of his product. As the market of first time buyers became saturated in the early 1920s, his competitors' emphasis on annual model changes as a way to create perpetual demand and their willingness to offer consumer credit undercut his market share. They recognized an important dimension of the relationship between producers and consumers that had escaped his productivist mentality.

Electrical appliances were among the first consumer goods to evolve from scientific discoveries. In the rush, to cash in on the potential for exploiting scientific research, a host of companies such as Dupont, Westinghouse, and General Electric established research and development laboratories to develop new consumer products and undercut the efforts of independent inventors. The results included a family of new synthetic materials such as nylon, cellophane, and plastics that began to transform the material characteristics of consumer objects once again. These new consumer products differed from their predecessors in the ways in their dependence on large technological systems. A candle could be used anywhere but a light bulb required a socket, wiring, an electrical generating plant and a transmission network. The adoption of these new consumer goods also committed Americans to an exponentially accelerating pattern of

energy consumption based on both electricity and fossil fuels. The Great Depression and World War II rationing offered only a temporary setback.

Hard on the heels of the triumphant Allied armies, American manufacturers began exploiting the prestige of victory and the destruction of the productive capacity of Europeans and Asians to create markets for American goods. Whereas 18<sup>th</sup> century Americans had stood at the periphery of an evolving consumer culture, 1950s white, middle-class America saw itself at the center. No where was this more apparent than in the “kitchen debate” between then-Senator Richard Nixon and Soviet Premier Nikita Khrushchev as Nixon offered up the plethora of American kitchen appliances as proof of the superiority of the American political system.

At the same time however, American consumers were proving themselves to more than mindless dupes of a capitalist system. As users, they began to challenge the longtime practice of producers to test the safety and utility of new consumer goods in the marketplace. In a host of product liability suits, courts began to uphold the right of consumers to expect products to be soundly made and safe to use. By the late 1960s, increasing numbers of Americans also chose to consume products made abroad. Whatever the nationalistic meanings embedded in American-made objects, many people found Japanese and European-made cars and electronics cheaper, better made, and better suited to their lifestyles.

The emergence of the Internet as a significant site of consumption offers a final variation on the themes of the relationship between technology and consumption present throughout American history. As a space for consumption, it seemingly exists everywhere and nowhere at the same time. What is the center and what is the periphery

in cyberspace? This new marketplace also presents the user with a vision of plenty limited only by the ingenuity of searchers and search engines. Consumers buy on the basis of representation without the smelling, touching, tasting, and trying on that characterizes older marketplaces. The Internet is also itself a kind of commodity. Like other commodities throughout American history, it is used in ways never imagined by its makers. Who would have imagined that this tool for Cold War scientific research would have been co-opted by e-Bay?

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