SILICON SIMULACRA

Post-humans of the Machine Worlds

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Chapter 2

Being Different from the Joneses

16 G.W. Leibniz, "The Method of Mathematics" in Roger Bishop Jones, trans., *Preface to the General Science*, www.rbjones.com/rbjpub/philos/classics/leibniz/meth_math.htm.

17 Isaiah Berlin, *Vico & Herder: Two Studies in the History of Ideas* (New York: Vintage, 1977) 22; Ernst Bloch, "Man (sic) as Possibility," *Cross Currents*, vol. 18 (1968), 273—283. The source of the anonymous quatrain is Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: McGraw-Hill, 1964), 25.

18 Joseph Schumpeter, *Capitalism, Socialism and Democracy* (New York: Harper & Row, 1942), 124.

19 The classic statement of this concern by a computer scientist is Joseph Weizenbaum, *Computer Power and Human Reason: From Judgment to Calculation* (San Francisco: W.H. Freeman & Company, 1976).

20 Joel de Rosnay, *The Symbiotic Man: A New Understanding of the Organization of Life and a Vision of the Future* (New York: McGraw-Hill, 2000), xxii—xxiii.

21 Alfred North Whitehead, *Science and the Modern World* (New York: Macmillan, 1925), 79.

CHAPTER 2

BEING DIFFERENT FROM THE JONESES

We are just statistics, born to consume resources.

—Horace, *Epistles* I.2

For every man alone thinks he hath got
To be a Phoenix, and that then can be
None of that kind which he is but he.

—John Donne, *First Anniversarie* (1611)

Quaker Oats cereal, Ivory soap, Nabisco crackers and many other consumer goods we know well were introduced to American households during the last decades of the 19th century. They were products of the Industrial Revolution, a transformation in the use of energy that yielded mechanized factories, the railroad grid and telegraphy. They became national brands with the advent of mass media. That milestone is usually marked by the passage of the Postal Act of 1879, which gave magazines low-cost mailing privileges, but its business model took a while longer to gel. In 1893, Frank Munsey realized that reducing the price of *Munsey's Magazine* to below cost would attract a much larger circulation, which in turn would attract much more advertiser spending. He figured correctly: the increased advertiser revenue far exceeded the decreased reader revenue and generated large profits. And that's how advertising-supported mass media was born.

Data-based marketing was also born in a "revolution" – the harnessing of information to production, to transportation and to communication in the 1970s. Of course, businesses had collected research data from the marketplace for decades with such tools as magazine questionnaires (1914), opinion surveys (1929) and audience measurement services (1935). Indeed, the first cybernetic system appeared as far back as 1924. Alfred Sloan, General Motors' (GM's) manager of parts and accessories who would later become CEO, set up system in which sales volumes were collected from GM dealers every 10 days and then used to govern parts purchasing and production volumes at its factories. Following Sloan's innovation, "control" systems that used continuous feedback from the marketplace grew in number and sophistication.[1]

In the 1970s two technological changes occurred and in combination enabled the broad diffusion of data-based decision making among consumer businesses. One was the new abundance of consumer-level purchase data, thanks to the application of bar codes on products, the use of credit cards for everyday purchases and the popularity of frequent-shopper programs at retail. At the same time information about consumers' households became available, thanks to the federal government's release of census data in machine-readable form. The other change was the democratization of data processing. Thanks to the invention of the micro-processor and to the separation of hardware and software, the computing power that once required a mainframe was compressed into workstations for technical professions and then packed into desktop machines that all business functions could use.

Abundant data and low cost data processing were elements of the larger "Information Revolution" of the 1970s. While the Industrial Revolution had harnessed energy in new ways to create economic value, the Information Revolution harnessed computing and communication in new ways to create economic value. There's a lively academic debate about whether the Information Revolution was a real break

or just a phase in the history of capitalism, about whether or not we had actually shifted from an industrial to a post-industrial economy.[2] Either way, in the last decades of the 20th century, businesses began reorganizing their productive assets, moving away from fixed arrangements that had been developed to harness energy and toward flexible arrangements that could harness the power of information.[3]

As a new way for business to create value, information technologies were applied to all business functions, starting upstream with new product research and continuing through design, pricing, manufacture, distribution and culminating with sales and marketing. From the outside, that is, from the consumer's view, the economy shifted from mass manufacturing and mass marketing the one-size-fits-all American Dream to the manufacturing of variety and the marketing of difference. This change was profound for both supply and demand sides, and it took a crisis in the prevailing business paradigm to bring it about.

The Prevailing Paradigm

Since the last decades of the 19th century, the economy's success in producing and distributing uniform products for nationwide sale rested on businesses' success in maximizing control over their own productive resources. To do so, that era's "captains of industry" and "robber barons" (depending on one's point of view) integrated their companies in two ways. The vertically integrated company gathered under unified ownership all the different steps in its process, from the raw materials that went into its products to the transportation systems that moved both raw materials and finished goods and even in some cases to the outfits that sold them. The Carnegie Steel Co., for example, owned not only steel mills but also the mines that provided the iron and coal from which steel is made, the ships and railroads that transported these raw materials to the factory, the furnaces that turned coal into coke and so on. The horizontally integrated company

tried to own just one thing but everywhere. The railroads, for example, consolidated successfully and rather notoriously in this era while American Telephone and Telegraph (AT&T) achieved its monopoly on long-distance calling. The most famous conglomerate of all, John D. Rockefeller's Standard Oil, achieved its dominance by combining vertical and horizontal integration. Although Progressive reformers busted up many trusts, cartels and combines in the early 20th century, the business efficiency of integrating productive assets into fixed arrangements was an unqualified success.

But success also brought its own problem: the economy's supply side could produce automobiles, vacuum cleaners and other consumer durables in great volumes but the demand side could not absorb them. Henry Ford devised a solution. In 1914 at the just-completed Ford factory in Dearborn, Michigan, he introduced the $5, eight-hour workday. More than a payoff to secure workers' compliance with the discipline of the assembly line, it reflected Ford's novel belief that mass production required mass consumption. That is, $5 for eight hours of work would provide wages that actually allowed for the purchase of these products as well as the leisure hours that allowed for their use. Fordism redefined the relationship between labor and capital as a win-win virtuous circle and sank firm roots as a model for the future. It had not yet spread widely or deeply, however, when the stock market crashed in 1929 and national economies, here and elsewhere, slid into the Great Depression of the 1930s.

One response to this crisis, followed by Japan, Italy and Germany, was fascism with its appeals to mythology, militarism and racism. The other, championed by the British economist John Maynard Keynes and followed by the United Kingdom and United States, was to provide government support for Fordism, mostly along three dimensions:

o   Expenditures on infrastructure such as transportation and energy that were vital to the growth of mass production and mass consumption and also created jobs

o   Expenditures to support a "social wage" in such areas as education, health care, housing and retirement benefits
o   Intervention if necessary to affect wage agreements and protect workers' rights

These policies helped but did not cure. The U.S. economy only came around with the ramped up production of armaments and materiel for World War II. In Europe and Japan the Fordist-Keynsian solution took hold after the war. It was required by the Allies' occupation policies, subsidized by the Marshall Plan and exported via direct investment by U.S. corporations in those regions.

From the close of the war through the 1960s, the Fordist-Keynsian paradigm prevailed, not everywhere and not for everyone, but broadly. Mass consumption supported mass production, which supported full employment, which supported mass consumption in a virtuous cycle. By the mid-1960s, the economies of the United States, Western Europe and Japan were prosperous in their home markets and turned to creating export markets. That move, however, brought new rivals and fiercer rivalries into the home markets of each.

Economic affairs went from bad to worse after the 1971 Bretton Woods agreement took the U.S. dollar off the gold standard. No longer fixed to bullion, exchange rates floated and the dollar devalued. Within a few years, inflation rose to an annualized rate of 10 percent, and unemployment also rose to 10 percent while the gross national product slumped almost 5 percent annually. Then, came the "energy crisis" of 1973—1974. It began when oil-producing Arab nations decided to boycott Israel and its allies and intensified a year later when they ended their boycott but more than doubled the price of oil. In other categories, deflating prices prevailed from 1973—1975 along with persistently high unemployment and idle factories. The business solution followed in the United States was to dismantle the Fordist-Keynsian approach with its interlocking arrangements between big business, big labor and big government and to pursue a new flexibility in how productive resources were organized.

The Manufacture of Variety

Labor, already sapped by unemployment levels unmatched in the postwar era, weakened further when some of the country's biggest employers started outsourcing production to developing nations, where wages were lower. Then, a wave of "right sizing," enabled on the factory floor by process reengineering and automation, permanently reduced headcounts even further. Finally, unions work rules, job definitions, seniority requirements and the like were inimical to the flexibility that business now wanted, and the unions themselves were vigorously attacked. On the job the new requirement on all labor everywhere was flexibility, euphemistically called multi-skilling and continuous learning.

Nor was the new flexibility limited to factory jobs. White-collar work also changed. Top-down, centrally managed bureaucracies of 'organization men" were increasingly supplanted by flexible, horizontal arrangements in which

> Highly trained employees … take on greater autonomy, being self-starting and self-motivating, moving from place to place, task to task, with great speed and fluidity. "Ad-hocracy" would rule, with groups of people spontaneously knitting together across organization lines, tackling the problems at hand, applying intense computer-aided expertise to it, and then vanishing whence they came.[4]

Businesses even started backing away from full-time employment and relying instead on part-time, temporary and subcontracted arrangements. (That's still going. Now that we are connected to the information superhighway, each of us can work in our own electronic cottage, facilitated by new time arrangements—flex time, part time and over time—as all labor becomes an always-on, on-demand resource.)

Most telling, businesses' search for flexibility was not limited to labor but extended to how it organized its other

productive assets. The integrated enterprise was partially dismantled by the same movement to outsource as many tasks in the enterprise value chain as possible. Moreover, following lessons learned from Japanese heavy industry, manufacturing reorganized its materials-handling and fabrication processes. "Total Quality Management," the simultaneous pursuit of improved quality and lower costs, led to product designs that were simpler to manufacture; just-in-time inventory practices made raw materials available exactly when needed while new factory layouts for agile manufacturing enabled small-batch production runs. These and other new manufacturing processes had two overall consequences on the marketplace's supply side: an acceleration in the rate of product innovation and the proliferation of differentiated products high in design intensity and symbolic content, produced in low volumes that could be sold at high margins to smaller market segments. In short, the supply side had reorganized to provide not only the new and improved but also the different and with ever-increasing diversity. Marketing, the business function responsible for aligning the demand side with the supply side, undertook a similar shift in the 1970s.

The Marketing of Difference

For most of the 20th century, consumer marketing relied on advertising in mass media to reach mass markets. For the most part it portrayed the benefits of the county's prosperity as improving material conditions for all Of course, there were rich and poor, but the American Dream applied to everyone and most advertising sold products in that context.[5] Interrupted by the Great Depression and World War II but resumed with new vigor thereafter, this consensus on the good life became the conformity of the Eisenhower years and took a nasty turn when Sen. Joseph McCarthy and other Cold Warriors began hunting down Commies, pinkos and fellow travelers, real and imagined, in Washington, Hollywood and elsewhere. Around the same time, critics started

complaining that the American Dream had become a one-size-fits-all straightjacket. Sociologists worried that America had become a lonely crowd of organization men and status seekers while psychologists became less concerned with the psycho-sexual concepts of id, ego and super-ego and more concerned with psycho-social concepts of identity, roles and the presentation of self to others.[6]

The 1960s brought an end to the culture of conformity. The first crack came under the pressure of the Vietnam War. It is generally forgotten that the initial response to anti-war opposition was to deny its legitimacy. "America: Love It or Leave It" was no doubt an extreme sentiment, but "My Country, Right or Wrong" was a credible position for many, even if it did tend to abrogate our freedoms of speech, the press and assembly.   Liberals who supported the war couldn't go that far. They argued instead that only the government had all the facts and denied legitimacy to anti-war critics that way. When draft boards began inducting the children of the middle class, anti-war sentiment erupted into increasingly frequent and popular protests, and the arguments that would deny legitimacy to dissent crumbled. Indeed, one lasting contribution of the 1960s was to restore the legitimacy of dissent.

The other was to legitimate difference. At first, black people wanted equality but then expanded their scope to include black pride; they would have not only their rights as citizens but also their responsibilities to each other as members of a race-based community   Feminists were one small step behind but followed the same trajectory—from the rights-based claim to "Equal Pay for Equal Work" to the sex-based best seller *Our Bodies, Our Selves.* Hispanic Americans, Native Americans and gays and lesbians, all wanted the same: equal rights and the right to be different. By the 1970s the old idea of America as a "melting pot" in which different cultural identities were dissolved was replaced by the notion of a national mosaic in which such differences would be respected and preserved.

Although advertising agencies were quick to co-opt and sanitize the counter-culture of hipsters and hippies,[7] marketing as a whole began a much larger transformation in the 1970s, its turn to variety. Enabled by the new flexibility on the economy's supply side, the demand side, both consumers and the marketers who addressed them, shifted from keeping up with the Joneses to being different from them, from living within a common culture to crafting diverse lifestyles from an ever-faster flood of fashion and innovation, ideas and values. In other words "different" from the supply side required a demand side that was heterogeneous, for which the slicing and dicing of data-based marketing would be the enabling technologies.

The cybernetic potential of the Information Age was already apparent. One booster saw a day coming when the wired household would be the ultimate feedback loop and bring information's potential for marketing to fruition:

> The return channel in interactive systems … will transmit back to industry much relevant information about consumer demand and consumption. The information will include the consumer's identity, the time and place of consumption … and product characteristics. This data … will generate an invaluable portrait of consumer activity for marketing purposes. These systems will create a truly cybernetic cycle of production and consumption; because every consumptive activity will generate information pertinent to the modification of future production.[8]

The vision was right but the reality was messy. Rather than a steady stream of tidy packets about the Smiths and another about the Joneses, marketers got a deluge of disparate data about everyone from everywhere.

This challenge was solved by another economic feature of the Information Revolution sweeping through

economy: the emergence of a new occupational stratum of knowledge workers. Throughout the decade leading thinkers from many disciplines, including economist John Kenneth Galbraith, sociologist Daniel Bell, futurist Alvin Toffler and management consultant Peter F. Drucker to name just a few, drew attention to the increasing number and diversity of those who created, fed and managed the new post-Fordist flexibility through data sciences and the symbolic arts.[9]

In short, as the supply side grew capable of manufacturing variety, marketing shifted to the cultivation of difference to foster a heterogeneous demand side. Data was plentiful, data processing was cheap and data analysts were at hand. The transformation of direct mail marketing and its explosive growth in the 1970s and 1980s are the most visible manifestations of this shift.

Direct mail marketing was born in 1884 with the first mail-order catalog from the company that would become Sears, Roebuck, and, ever since, catalog-based "retailing at a distance" has been a good business. Two events in the 1970s enabled the direct mail to become data-based marketing: the U.S. Postal Service's introduction of five-digit zip codes and the U.S. Census Bureau's release of household-level data in machine-readable form. Now that postal geographies could be described in terms of the attributes of the households within them, they could be sorted based on those attributes and then mailed.

The first geographic segmentation system for the United States, PRIZM from Claritas Inc. launched in 1974, and the direct marketing business grew rapidly thereafter. In 1975 there were roughly 300 commercial databases; 10 years later, there were over 2,000. Subscribers to these data services numbered 5,000 in 1975; within 10 years, they numbered 675,000. National business media reported that marketers were poised to pounce on the 1980 U.S. census upon its release, as were the rapidly growing number of agencies specializing in database marketing.[10]

Catalogers like L.L. Bean and subscription businesses like Columbia House took to the new data-based marketing first. For decades L. L. Bean had mailed two catalogs, in spring and fall. In this decade it began segmenting its customer lists and unbundling its catalogs into multiple versions; some segments got as many as 12 catalogs, others as few as 4. In the 1980s all sorts of businesses jumped in, notably airlines, phone companies, banks, automobile manufacturers, oil companies and department stores. Databases got more precise, too, shifting from zip codes, which typically contain 6,000 households, to census tracks, which typically contain 1,500 households, then downsizing to census subtracts and to nine-digit zips that contain as few as 10 households. Data processing costs also plummeted at this time. A name and postal address typically contain 1,000 bits of data. To process those bits in 1973 cost over $7; in 1987, it cost one penny.[11] A new magazine *American Demographics* hit the newsstands, the first college curriculum in direct marketing was offered at the University of Missouri, Kansas City in 1984, and throughout the decade a spate of how-to business books, including one that promised to help executives become "information confident" by raising their "information consciousness," proclaimed a revolutionary new marketing science.[12]

The concurrent growth in direct mail, the preeminent channel for segmented marketing, showed the impact. From 1980 to 1999, the volume of Standard A mail, the dominant class for direct mail marketing, grew from 29 percent to 43 percent of the total mail stream.[13] If one includes all the channels through which data-based marketing operates, the discipline captured 53 percent of all U.S. advertising spending in 2008.[14]

In summary, businesses' shift in the 1970s away from fixed and toward flexible arrangements of their productive resources enabled them to manufacture variety and occasioned a corresponding shift in the practice of marketing away from unitary content broadcast to all by mass media and toward variable content delivered to segments by media that can be

addressed to households and individuals. The homogeneous consumer culture of the 1950s that expressed a commonly shared American Dream was displaced by the cultivation of difference among ever more narrowly defined groups—first, segments; then, niches; today, markets of one that make the ultimate promise, individuated self-expression. Data-based marketing, not just the direct mail industry but the whole way of looking at consumers—how we're defined, sized, assessed and addressed—was the leading edge of this shift, and it sets us up and brings us forth in its own particular way.

Notes

1 James Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, MA: Harvard University Press, 1986) is comprehensive history of feedback systems in the U.S. economy up to the mid-20th century.

2 Those who saw a real break included John Kenneth Galbraith, *The New Industrial State* (New York: Houghton Mifflin, 1967); Alvin Toffler, *Future Shock* (New York: Random House, 1970); Daniel Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Harper Colophon, 1973) and Peter F. Drucker, *Post-Capitalist Society* (New York: HarperCollins, 1993). Krishan Kumar, *Prophecy and Progress: The Sociology of Industrial and Post-Industrial Society* (New York: Penguin, 1978) and Frank Webster, *Theories of the Information Society* (London: Routledge, 2002) see it as a phase.

3 David Harvey, *The Condition of Post-Modernity: An Enquiry into the Origins of Cultural Change* (Oxford: Blackwell Publishing Ltd., 1990), 119—197 explains the shift from fixed to flexible arrangements. Other notable treatments include Manuel Castells, *The Information Age: Economy, Society and Culture: Volume 1—The Rise of Network Society* (Oxford: Blackwell, 1996); Michael Piore and Charles Sabel, *The Second Industrial Divide* (New York: Basic Books, 1984); Scott Lash

and John Urry, *The End of Organized Capitalism* (Cambridge, U.K.: Polity, 1987); Robert B. Reich, *The Work of Nations: Preparing Ourselves for 21st Century Capitalism* (New York: Vintage, 1991) and Lester Thurow, *The Future of Capitalism* (New York: Penguin Books, 1997).

4 Alexander R. Galloway, *Protocol: How Control Exists After Decentralization* (Cambridge, MA: The MIT Press, 2004), 158.

5 Roland Marchand, *Advertising the American Dream: Making Way for Modernity, 1920—1940* (Berkeley: University of California Press, 1985). Daniel Pope, *The Making of Modern Advertising* (New York: Basic Books, 1983) and Stuart Ewen, *Captains of Consciousness: Advertising and the Social Roots of Consumer Culture* (New York: McGraw-Hill, 1976) are also valuable histories.

6 The classic works are David Reisman with Nathan Glazer and Reuel Denny, *The Lonely Crowd: A Study of the Changing American Character* (New Haven: Yale University Press, 1950); William H. White Jr., *The Organization Man* (New York: Simon and Schuster, 1957); Vance Packard, *The Status Seekers* (New York: David McKay, 1959) and Erik Erikson, *Childhood and Society* (New York: W.W. Norton, 1950).

7 See Tom Frank, *The Conquest of Cool: Business Culture, Counterculture and the Rise of Hip Consumerism* (Chicago: University of Chicago Press, 1997).

8 Kevin G. Wilson, *Technologies of Control: The New Interactive Media for the Home* (Madison: University of Wisconsin Press, 1988), 35, quoted in Mark Poster, *The Mode of Information: Post-Structuralism and Social Context* (Chicago: University of Chicago Press, 1990), 75.

9 Occupational strata often appear prior to the technologies that propel their growth and crystallize their presence. For example, factory workers appeared when labor was divided up and rationalized, decades before power-driven mechanized factories appeared. According to Drucker, knowledge workers are neither the largest

nor the ruling group of our society but they are contemporary society's leading class and as such shape its character, leadership and social profile.

10 Paul Starr and Ross Corson, "Who Will Have the Numbers? The Rise of the Statistical Services Industry and the Politics of Public Data" in William Alonso and Paul Starr, eds. *The Politics of Numbers,* (New York: Russell Sage Foundation, 1987), 415—447 is a short history of the consumer information business.

11 Dick Shaver, *The Next Step in Database Marketing: Consumer Guided Marketing* (New York: John Wiley & Sons: 1996), 40.

12 John Goss, "Marketing the New Marketing: The Strategic Discourse of Geodemographic Information Systems," in John Pickles, ed. *Ground Truth: The Social Implications of Geographic Information Systems* (New York: Guilford Press, 1995), 130—170. See also Jerry L. Salvaggio, "Projecting a Positive Image of the Information Society" in Jennifer Daryl Slack and Fred Fejes, eds., *The Ideology of the Information Age (*Norwood: Ablex Publishing Company, 1987), 146—157.

13 U.S. Census Bureau, *Statistical Abstract of the United States, 2000:* Section 18: Communications and Information Technology, No. 936. "U.S. Postal Service—Summary: 1980 to 1999," www.census. gov/prod/2001pubs/statab/sec18.pdf.

14 "Direct Marketing to Account for 53% of US Ad Spend in 2009," The Research Brief from the Center for Media Research Blog, December 5, 2008, www.mediapost.com/publications/?fa=Articles. showArticle&art_aid=95711..

CHAPTER 3

THE DAYDREAMER AND THE PROBABILITY

Dreams are but interludes, which fancy makes;
When monarch reason sleeps, this mimic wakes.

—John Dryden, "The Cock and the Fox" in *Fables* (1697)

Like dreams, statistics are a form of wish fulfillment.

—Jean Baudrillard, *Cool Memories* (1987)

The word *communication* in everyday usage connotes transportation. An intended meaning is packaged into a message of words and images at Point A and then sent via some channel to Point B, where the message is unpacked and its meaning acquired. But this view understates the collaboration involved. The receiver at Point B must first pay attention to the message's arrival; unpack its contents; interpret its meaning, sometimes the way the sender intended, sometimes not and finally decide whether to apply the interpreted meaning to her own situation.

In Latin *com-* means *with*, and every communication is a collaboration, one that shapes the self-experience of the communicators. We all know this from everyday life. A conversation between parent and child, for example, or between doctor and patient—who says what to whom and how—reflects a set of assumptions about where each stands relative to the