Chapter 1

A Brief History of Retailing

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Today's senior retailers have endured a series of profound shocks and changes. During their careers, they have witnessed the dot-com bubble of the late 1990s, been swept along by a credit-fueled consumer boom, felt the pressure of financial markets' expectations of cross-border retailing, and been blasted by the macroeconomic consequences of a capital market crash and its aftermath. Those who struggle for economic survival day by day and week by week may feel they have had enough history already. Nevertheless, although these words may be of little comfort, the events have been merely the birth pains of a new era in retailing in which the retail landscape will change completely.

To understand this assertion, it helps to consider the nature of today's changes in the context of the history of retailing. We can organize our thinking by dividing the time line of retailing into three eras: the mercantile, the modern, and the digital. The era of medieval mercantilism was born of an embryonic banking system that made capital funding available for the first time and steadily increased the scale and scope of trade over centuries. The modern era, from the Industrial Revolution to the turn of the 21st century, ushered in mass production and the consumer society. In the present era, which got under way 15 or so years ago, another revolution is taking place: the conventional ways of retailing laid down and consolidated over the course of centuries are being thrown over in favor of a new order founded on three technological pillars—computing

power, networking, and data storage capacity. We refer to this as retailing's digital era.

Retailers are by definition intermediaries, helping suppliers to find a market for their goods and customers to buy what they need or desire. In the mercantile and modern periods, retailers' role as the intermediaries between suppliers and customers—adding value to both and extracting profit for themselves in the process—was necessarily a narrow one. Retailers served a small, elite class of people until, progressively, more members of society moved beyond subsistence to become consumers. With the help of capital, new management techniques, and new technology, they grew steadily more skilled in that role, and steadily more powerful. The more skilled they became, and the greater the demand, the greater the scale at which many were able to operate while still delivering on the most fundamental requirement of a successful retailer: to match the flow of goods with information about supply and demand in order to earn the highest possible return on the money invested in inventory.[1] This was as much the challenge for the merchants of the Middle Ages who bought wool in England and sold it in markets in Bruges or Ghent as it is for today's retailers who operate hypermarkets of up to 220,000 square feet.

But in the digital era, the retailer's role as intermediary is under threat. Fifteen years ago, the new technologies that promised so much for e-commerce did not quite deliver, and the dot-com bubble burst. Today, a mature range of digital technologies is sending the industry a clearer signal. And these technologies are game changing. Traditional retailers no longer hold the monopoly on marrying information about supply and demand with the appropriate flow of goods. That truth is already apparent in the declining importance of the bricks-and-mortar store, which once embodied the convergence of the two. A new army of online retailers now harnesses the power of computing and the Internet both to aggregate demand online and to fulfill it. Understanding how retailers' power as intermediaries grew through the course of history helps explain why today's technology is so disruptive and brings home the magnitude of the changes afoot.

The mercantile era

The traveling merchant of the late Middle Ages was the first recognizable retailer in the sense we understand the term. For centuries, his predecessors in trade had taken products they had made to markets and fairs, by foot or horse or ox, and sold them directly to local people. In contrast, the retailer who emerged in Europe in the 13th century was a middleman, buying goods from producers and selling them from town to town and village to village. For most people, however, many if not all of their material needs were provided through self-sufficiency. In a largely urban, post-industrial society, we readily forget a world of smallholdings and subsistence, in which informal barter was as important a means of exchange as money transactions.

Under the most basic model of business in this era, the merchant financed his own operations and carried out his own freighting activities. He bought goods from specialist centers of production (such as linen from Reims), organized mule trains to traverse mountain and plain, and distributed his wares through markets, fairs, and networks of peddlers. The expansion in money supply as silver production in Europe increased in the 13th century enabled him to go farther and expand his business. Venture capital had arrived, increasing the scale and scope of trade and bringing about the first wave of internationalization.

Eventually, sea routes pioneered by the great voyages of discovery in the 15th and 16th centuries enabled this merchant's successors to reach around the globe, exchanging an ever-widening variety of goods. By the beginning of the 18th century, Europeans had become accustomed to fabrics from India, tea and porcelain from China, lacquer work from Japan, and tobacco from America, as well as more locally produced imports, such as wine from France. Of course, these were luxury goods, or at any rate staples only for the very rich.

At the same time, these retailers were gradually being relieved of the need to spend long periods away from home, thanks to resident

merchants, who began acting as agents for purchase in sourcing markets such as Bruges, Genoa, and Casablanca. And the emergence of dedicated providers of transport freed merchants to concentrate on selling their goods. Two types of generalist businesses took root: mercers, who provided haberdashery items such as silks and linens, and grocers, who supplied dry food provisions, household goods, and hardware. There were dealers and the precursors of what we would call shops, but for several centuries, there was little separation between wholesalers and retailers. Business was carried out in proximity to both domestic living areas and workshops for craft production. Gradually, particular towns and even streets became associated with specific commodities: London's Haymarket was home to traders of hay and straw, for example.

The founding of the great international trading enterprises, following the great voyages of discovery, brought a surge of imports into Europe and a progressively stricter delineation between wholesale and retail. The East India Company, established in 1600, cleared its stock with regular auctions, consciously rejecting the opportunity to develop a full "retail" activity. That opportunity was available for others to take.

Hence, by the 18th century, shops had become a common feature of London and Paris. In London, certain streets, notably Cheapside, were becoming dedicated to retail, while in Paris, covered shopping arcades, or *passages*, were established. The shop owners understood what goods were available and selected those that would meet customers' needs or that customers might like, because much was new to the market. And because each merchant knew most customers by name, it was relatively easy to purchase stock that was likely to sell. There was little that resembled mass production, even by the middle of the 18th century.

Craft manufacture remained entwined with merchandising and selling: a shop would have a workshop behind or above it, and products tended to be made to order and customized. But the merchant-retailers who owned a general store in the village or town spread their sourcing

footprint wide in order to link producers as well as other merchants with consumers. The accounting records for one such store—Abraham Dent's shop in Kirkby Stephen, a small town in Yorkshire, England—show just how extensive sourcing networks were. During the period covered by the accounts, 1756 to 1777, Dent stocked a range of dried grocery items (tea, sugar, flour), as well as wine, brandy, soap, candles, and a limited range of textiles.[2] He could loosely be said to have commissioned his own "private label" for stockings. What is most striking is that Dent drew his stock from 175 suppliers in 48 towns and cities across England. The mercantile era had advanced a long way.

The modern era

The onset of the Industrial Revolution in the mid-18th century marked the beginning of a long wave of change and technological innovation, from the telegraph to the computer, which endured until the turn of the present century. It saw the development of retailing from Abraham Dent's provincial general store to the hypermarket chain bent on overseas expansion and the vertical retailing model of the Spanish clothing brand Zara as globalization shrank the world at the close of the 20th century. Each development in between—the department store, the mail-order catalog, the self-service supermarket, the edge-of-town category killer—represented an advance in consolidating the power of the retailer as mediator between supplier and consumer. Only the retailer could match supply and demand on a large scale and thus sell at low prices, profitably.

Consumer society

At the start of the Industrial Revolution, conditions were ripe for the creation of a more consumer-oriented society. As in the mercantile era, mediation between manufacturers and customers defined the retailer's role. What changed, and would continue to change, was the scale of its operations.

The period marked rapid advances in manufacturing efficiency as industrialization harnessed human capital and automation to replace the craft economy with mass production. Goods began to be produced in larger quantities. In addition, items that hitherto had been expensively imported luxuries could be readily copied. Chinese porcelain is the obvious example. For years, Chinese producers alone possessed the manufacturing knowledge to combine kaolin, feldspar, and quartz at very high temperatures. But a combination of research by German chemists and the observations of a French Jesuit who traveled through China led to the first European production of porcelain, in Meissen, Saxony. Other centers of production quickly became established. In the southwest of England, china manufacturing emerged in Bristol, using kaolin (or "China clay") from Cornwall. More famously, Josiah Wedgwood set up production in Stoke-on-Trent. Comparable advances were made in the manufacture of textiles, furniture, and ornaments. As economic historians have pointed out, this "imitation" of Asian technology was a distinctly 18th-century virtue for Europeans—the equivalent of what we would now call "teardown."[3]

The Industrial Revolution saw a social revolution, too, characterized by the emergence of a new proletariat and of the cities in which they lived. The slow growth of a consuming class accelerated until this demographic eventually outnumbered and surpassed in economic significance the traditional agricultural laboring classes. A tier of administrators, clerks, and other functionaries emerged in parallel—all ready to consume affordable versions of luxury items. The same course of events is now unfolding in the world's emerging markets, although at an extraordinary speed in comparison.

Transformed communications, including transportation systems to carry messages, also underpinned the rise of consumerism. The underlying transportation technology did not change (it was still the horse), but better roads and transport scheduling made a vast difference to the ways in which economic agents could communicate with one another. Thus, a journey from London to Manchester took some three days in 1750 but just 18 hours by 1836.[4] When the railways arrived, the effect was even more

striking. Markets opened for perishable commodities, for example; so back in Manchester, the greater supply of fresh fish from the coast caused the price of fish to fall by 70 to 80 percent.[5] Information flowed faster, too. With retailers better informed about what suppliers had to offer and what customers might want, they could arrange to have the right goods delivered more quickly.

The emergence of specialist retailers

The rise in both supply and demand created conditions for the emergence of more specialist retailers, choosing to sell a certain range of goods in order to build distinctive value propositions. But this innovation required some important enabling steps in the new urban centers for retail, which emerged first in London and then in cities across Europe and North America: municipal investments in paving and lighting, as well as the gradual realization by city authorities and private developers alike that the construction of specialist shopping areas served their economic interests.

The department store

The most prominent subtype of specialist retailer, the department store, arose from the activities of textile retailers as they extended their range and enlarged their shops in the early and middle years of the 19th century. It was a dramatic development, and contemporaries were well aware that something new was emerging; they often described these businesses as "monster shops" or "monster houses."[6] But the specific identity of the department store developed from a concept of universality that went beyond a broad range of clothing categories.

The first generally recognized department store in this sense was Bon Marché in Paris. It was a single-site operation—but on an unprecedented scale—that moved into progressively larger premises. By the 1870s, when it was located on the city's rue de Sèvres, it had become the world's biggest retail business by sales, the primus inter pares (first among equals) of monster shops.[7] The store showcased the cutting-edge practices of its

day by adhering to fixed prices (reinforcing its position as a trusted intermediary) and placing advertisements in newspapers to spread the word about the vast array of goods for sale. In turn, advertising, particularly from specialist retailers, enabled newspapers to expand rapidly.

Around the world, retailers copied the department store format. In London, William Whiteley, who started out in 1863 with a single drapery store, followed the monster store route by acquiring adjacent shops to offer a total of 17 different departments. In Chicago, Marshall Field's opened in 1887. Another Bon Marché was established in Seattle in 1890, and Harrods, which had blossomed from small beginnings in the first half of the nineteenth century, progressively rebuilt in London's Knightsbridge in 1905 to arrive at the store we know today.

The department store was one of society's most influential institutions and a beacon of modernity. Initially, it was characterized by volume as well as breadth of range, and the aggregation of a large number of items enabled department stores to offer low prices. Besides leading change in the availability and assortment of goods, department stores were early adopters of numerous new technologies; in America, they were among the first to use mechanical data-processing equipment to analyze sales. They also pioneered methods in areas such as inventory control, credit policy, promotional techniques, and hiring practices. In addition, the department store showed how, by aggregating sufficient demand, it could make increasingly efficient use of the capital invested in stock and construction.

Bon Marché customers were affluent, middle-class people who in no way represented the newly industrialized masses. A different format arose to serve the larger numbers of urban workers on lower incomes. Frank Winfield Woolworth started out as a stock boy in a general store in Watertown, New York, in which one of the most successful elements was a table on which every item was priced at five cents. When he ventured out on his own, in Utica, New York, in 1879, he established an entire store based on that single-price premise. The business initially prospered but was unable to withstand a hike in rent. So the next year, in partnership

with his brother, he opened a store in Scranton, Pennsylvania with a sign outside reading, "5¢ and 10¢ Woolworth Brothers Store." It was the first nickel-and-dime store.[8] Whereas the department store was the first format subtype to be copied internationally, F. W. Woolworth in 1909 became the first modern retailer to export a retailing concept, opening a shop in Liverpool in the northwest of England.[9]

The mail-order catalog

In America, the wide distribution of population created the conditions for the development of the first modern catalog retailing operation: Sears, Roebuck & Co. built a comprehensive remote operation from focused origins in watches and jewelry. The business, founded in 1893, anticipated much of the context in which Internet retailing would emerge more than a century later. It featured a distributed network of customers, a central inventory of goods of a wider range than would be practical—or economical—to stock across a diffuse network of stores, and a reliance upon delivery and what we would now call return logistics. Sears and other catalog businesses showed that, by using centralized stockholding, they were often better able to match stock levels to demand than were traditional stores.

The self-service supermarket

Perhaps more significant than the development of the department store was the foundation of the supermarket and the concept of self-service, which would revolutionize food distribution globally. A notable example is Piggly Wiggly, a business in the southern United States that opened its doors in Memphis in 1916. By introducing the first self-service model, allowing customers to assemble their orders themselves, Piggly Wiggly enabled its managers to focus on refinements such as the best use of display space, price levels, and the types and frequency of promotions.

Although Piggly Wiggly is credited with being the first self-service grocery store, it was not quite a supermarket—that implies greater scale

and, in turn, more customers, and customers buying more. There are a number of candidates for "first supermarket." Terry Sharrer, a historian from the Smithsonian, bestows the honor on a business called King Kullen, based in Queens, New York, which had the appealing tagline "World's greatest price wrecker."[10] As far as we can see, there are some strong rival candidates. The Hattem's store in Los Angeles began life in 1927 with many of the features we still associate with the format, including staying open 24 hours a day.

King Kullen's boast serves as another reminder of how scale has historically worked in retail. Really low prices attract disproportionate numbers of customers. The retailer is able to cope with the volume because it operates in stores of sufficient size and with sufficient choice to meet their requirements, while being able to sell at those low prices because of scale economies. Scale also gives retailers more information about demand—in the case of supermarkets, that flow of information is almost constant—which helps them turn stock faster. These retailers match flows rather than individual parcels of investment in inventory in their attempts to balance supply and demand, helping them to meet the all-important metric of gross margin return on inventory.

Over time, the central role of fresh foods in supermarkets required regional—and then national—operators to become increasingly sophisticated in the management of integrated chill-chain distribution. In addition, as logistics abilities developed, there was a move to centralize distribution and consolidate goods in retailer-owned distribution centers, rather than have them delivered directly from suppliers to stores. The short life of fresh foods and the importance of optimizing the use of space proved compelling drivers of change: for much of the past century, most of the technological and information-processing innovation in retail has emerged from the supermarket sector.

The edge-of-town category killer

Category killers took scale in a different direction, focusing on a much narrower range of goods to push prices lower still. Car ownership was

the factor that made the emergence of this format possible, for the category killer was the monster store of suburbia. Situated on the edge of or outside cities and large towns, US companies such as Toys "R" Us, Best Buy, and Home Depot laid claim to preeminence in one retail category after another. Modern retail software systems that help control stock and monitor sales performance have enabled these businesses to maintain an efficient operating model. But category killers also illustrate some of the limitations of operating at very high scale with a relatively narrow range of goods. Prices in these stores are so competitive and margins so thin that the companies are vulnerable to relatively small falls in demand. In consumer electronics retailing, the shift in purchasing from store-based retailers to digital retailers has already had a dramatic effect on the retail landscape.

The hypermarket

The biggest format of all was the hypermarket, or its US cousin, the supercenter. Just as the supermarket was the expanded version of the self-service Piggly Wiggly, so the hypermarket is the supermarket writ large. If a supermarket represents 20,000 to 30,000 square feet of space (and this varies from market to market, as a US supermarket can be at least 50 percent bigger), then a hypermarket can range over areas from 50,000 to 220,000 square feet. The most telling difference, however, is not size per se but the prominence that hypermarkets give to nonfood goods. If this category's sales account for 10 to 15 percent of a supermarket's turnover, that is not a bad performance, but in a hypermarket, nonfood items can represent as much as 25 to 30 percent.

When did the hypermarket first emerge? Conventional histories tell us that Carrefour opened the first true hypermarket in the Paris suburb of Sainte-Geneviève-des-Bois in 1963.[11] Carrefour was strongly influenced by local competitors that were also operating supermarkets with nonfood items. But the French retailers learned much from a charismatic figure, the Colombian Bernardo Trujillo, a retail guru at the cash register manufacturer NCR, who ran courses for retailers from many countries to train them in the new science of "modern merchandising marketing."

It is remarkable how many of the overseas visitors to Trujillo's conferences in Dayton, Ohio were from France, and his effect on French retailing was striking. Within the context of selling more cash registers—NCR's principal purpose—he offered modern retail management prescriptions that were a kind of codified set of lessons gleaned from US supermarkets. It is partly due to him that French retail distribution, which was on a significantly smaller scale than that of the United States in the early 1960s, leapfrogged US practices. Only in 1988 did Wal-Mart, which had developed a huge discount store business based on nonfood items, finally add a full range of fresh foods to create the supercenter.

This was the format that quickly gave Wal-Mart dominance in the US national grocery market, combining the systems used in supermarkets and category killers to sell a dazzling array of goods at rock-bottom prices at scale. Centralized logistics are the key. The flow of goods is streamlined so that working capital is used more efficiently, while accurate sales forecasting enables restocking to respond to demand so that, as far as possible, items arrive just in time. The company demonstrated what could be achieved through the mastery of the coordination of information and material flows.

Vertical retail

In various retail sectors, but most notably perhaps in clothing, more and more retailers have pushed into the sourcing and production of a range of goods made exclusively for them, the better to coordinate the two. Likewise, some manufacturers have taken control of their own distribution in their own retail stores. Somewhat confusingly, the industry uses the term *vertical retail* to describe both activities.

Italian manufacturer Benetton may have been the pioneer of this approach in clothing. However, the best-known and most frequently cited exemplar is Spain's Inditex, which has an operating model first developed for the company's Zara brand, which opened its first store in A Coruña, Spain in 1975. Zara's end-to-end retail business model arguably takes the

coordination of information to a new zenith: the company famously describes itself as "selling in production," meaning it can reorder lines that are especially popular and have them delivered to stores within days. Since rolling out its first overseas outlet in Oporto, Portugal in December 1988, Zara has become a truly international brand with, at the time of writing, 1,659 outlets in 84 countries. On its website, Inditex says, "The retailer's international footprint proves that national borders are no hindrance to a shared fashion culture." Globalization did not prove so easy for all retailers in their pursuit of ever-greater scale, however.

Globalization

The retail industry has been a global one for centuries, with retailers amassing goods from around the world to delight their customers. But in the middle of the 1990s, capital markets developed tremendous expectations for cross-border expansion by leading retailers that had saturated their markets at home. Investors wanted to see mergers and acquisitions or rapid organic growth abroad.

The managers of leading retailers, many of whom had no experience in the markets concerned, found themselves under pressure to make major strategic decisions while at the same time managing significantly increased complexity. As they attempted to do so, the markets drew conclusions rather abruptly. Thus, Tesco, although it later proved to be an adroit and enterprising global retailer, had its growth prospects marked down for a number of years because of one relatively unsuccessful attempt to expand into France.

Contrary to investors' initial expectations, the value that had been attributed to overseas expansion proved generally hard to substantiate. One reason was the elusive nature of scale economies in cross-border retailing. Despite the apparent logic that greater volumes of goods should command lower unit prices from manufacturers, the relatively low value of most everyday purchases and the high costs to transport the goods meant that such aggregation existed more in theory than in practice. There

is no value to capture in trucking something that can be more cheaply manufactured locally.

It also turned out that certain tastes and consumption habits are remarkably resistant to change, especially those concerning food and food preparation. This spelled trouble for grocers, who happened to be the very largest retailers—the ones upon which the greatest hopes for cross-border growth initially were pinned. In contrast, retailers that sell newer types of products, especially within consumer electronics, have been able to educate generations of new customers globally. What unites us across the world in using a smartphone or tablet computer is not something we share in preparing our evening meals.

Following these hard lessons, the almost frantic intensity of hopes resting on cross-border expansion for the largest traditional retailers has lessened, and the markets have become more discerning. Quietly, and with a few steps backward in addition to the ones taken forward, a good number of leading retailers have continued to expand their international businesses ever since. In fact, while many had believed that internationalization required huge scale and the replication of formats, experience finally taught them that what really matters is local scale and formats more closely aligned with domestic consumer needs.

The digital era

Although foreign landscapes continued to tantalize many, retailers next turned their attention to the online environment, and straightaway many believed the digital revolution would prove as transformative for retailing as its industrial predecessor had been. The term *new economy* quickly permeated thinking and generated an investment boom in another pioneering form of retailing, e-commerce. Even the most basic of the initial propositions for digital retail caused tremendous excitement among entrepreneurs and investors, with both groups sensing the arrival of something very significant. This enthusiasm for all things e-tail explains how, on the

day of Webvan's IPO, its shares closed at a price that implied the company was worth $8.45 billion.[12]

The excitement stemmed from the fact that retailers and consumers could now exchange all the information required for making a decision to purchase and carrying out the purchase transaction without the customer being present at the premises of the retailer, while catalogs had started to dematerialize. But during the early years of e-commerce, the infrastructure, consumers, and retailers were not ready to operate in this context at scale. As a consequence, the boom became a bubble, which burst.

On first studying business, many students learn of the great speculative bubbles of the past, some of which sound inherently ridiculous. How could the Dutch have been so naive as to drive a speculative boom in tulips during the 17th century? How, in the early 18th century, could so many Britons have lost fortunes in the South Sea Bubble, or Frenchmen let themselves be fooled by the Mississippi Bubble? But with the passing of time, and upon reflection, we can concede that in each case there was real wealth to be made in the markets concerned. Some 350 years after the tulip boom, the Dutch continue to have the largest spring bulb industry in the world. Likewise, the global trade envisaged by the South Sea Bubble did come to pass, and belief in the economic potential of America has been fully vindicated.

So, in the aftermath of the dot-com bubble and the resultant technology crash, many incumbent retailers, including some that had been painfully slow to embrace the new consumer technology, have started to build meaningful businesses online. And what is surely clear to all is that the digital revolution is transforming the role of the traditional retailer. Demand is no longer aggregated only in the physical store, but online too. Meanwhile, the likes of Amazon, by offering such a huge, undefined range of products, have ridden roughshod over the idea that a key role of every retailer is to make a careful selection of the products that its particular customers want or might be enticed to purchase.

E-commerce has not been the only concern of retailers in the digital age. As early hopes for the Internet dream began to fade and management attended to the requirements of international expansion and category and service diversification, many retailers looked to internal efficiency and differentiation to sharpen their value proposition. Tesco, for example, became more aggressive on price and customer benefits while trimming costs. This resulted in significant revenue growth, market share gains, and increased profitability. In some countries, and with the help of technology, retailers evolved by streamlining operations and opening new stores that operated more efficiently than their old ones. In doing so, they helped improve the overall productivity of an entire market, as Wal-Mart did in the United States.[13]

The financial crisis of 2008, with the resulting economic downturn, not to mention the associated negative consumer sentiment, has been traumatic for retailers. After all, to make the majority of their sales in developed markets (and an increasing proportion of those in developing markets), retailers depend upon consumers' willingness to make discretionary purchases, not just their ability to pay for necessities such as food. The shift toward shopping for value has been marked, customer loyalty has weakened, and volumes have contracted.

Despite the importance of these economic constraints, we believe that the most powerful trends demanding the attention of the retail industry's leaders will involve what is happening with technology. Indeed, so strong are the forces at play here that we believe the 2001 crash was merely a question of timing. Future historians will dismiss it as a blip as they describe how the digital revolution caused a third upheaval in retailing. And while the mercantile and industrial eras strengthened the position of the traditional retailer, the current upheaval may turn out to have a very different impact. The technology that has taken large retailers to new levels of power and centralization (often at the expense of small, independent retailers) is now, in its latest iteration, beginning to leech power from them.

We may marvel at the optimism of the first generation of e-commerce start-ups that tacitly assumed old brand loyalties could be displaced overnight. Many were indeed exceptionally careless with capital; few really understood the means by which retailers actually create value. But they were right to think something had changed. What was it?

Notes

1. Retailers know this as the gross margin return on inventory (GMROI), the return on average working capital investment in inventory. It explains why fast rotation of low-margin inventory is, at least arithmetically, equivalent to slower rotation of higher-margin inventory.
2. T. S. Willan, *Eighteenth Century Shopkeeper: Abraham Dent of Kirkby Stephen* (Manchester: Manchester University Press, 1970).
3. For example, M. Berg, "From imitation to invention: Creating commodities in eighteenth-century Britain," *Economic History Review* 55, no. 1 (2002), pp. 1–30.
4. Roy Porter, *London: A Social History* (Cambridge, MA: Harvard University Press, 1998).
5. D. Alexander, *Retailing in England in the Industrial Revolution* (London: Athlone Press, 1970), p. 17.
6. The terms were especially used by smaller traders. Here is *Freeman's Journal and Daily Commercial Advertiser* for September 23, 1851, approvingly quoting a piece in the *News of the World*: "A great [and] wide-spreading evil . . . in almost every provincial town . . . of immense shops, founded by men possessing large capital, who seek to conduct under the same roof the sale of various articles. These monster houses are absorbing all the business formerly carried on in the smaller shops."
7. It still trades on the same site.
8. For non-North American readers, Americans call 5-cent coins nickels, and 10-cent coins dimes.
9. His expansion was rather like building one's first overseas hypermarket next to the airport, for Liverpool was the first mainland port of call for transatlantic shipping.

10. Dr. Terry Sharrer used a five-factor definition as the test of what constitutes a modern supermarket: self-service, multiple separate departments, cash and carry, discount pricing, and multiple stores. Terry Sharrer, personal communication, 2012.
11. The name Carrefour comes from the French word for roundabout, because the first store was named for the project site, and it took its name from the roundabout it overlooked.
12. Troy Wolverton, "Webvan delivers on the Street," *CNET News*, November 5, 1999, http://news.cnet.com/2100–1040–232534.html.
13. As Brad Johnson noted in his 2002 *McKinsey Quarterly* article, Wal-Mart in 1987 "had a market share of just 9 percent but was 40 percent more productive than its competitors as measured by real sales per employee," in Brad Johnson, "The Wal-Mart effect," *McKinsey Quarterly* (February 2002), pp. 40–41. A series of Wal-Mart innovations in electronic data interchange and supply chain practices would be copied by competitors in the industry, but Wal-Mart's growth alone changed the productivity of the retail sector in the United States.