An examination of the history of retailing since the 18th century reveals that it has gone through five phases of development associated with well-defined waves of technological and social innovations. These innovations have altered patterns of settlement, the social and economic geography of urban areas, and the level and distribution of wealth and income. There is a consistent pattern involved in all five phases, which permits informed forecasts of the future of retailing at the present time.

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Introduction

Over the last 250 years, both the function and form of retail outlets have progressed through a series of relatively sudden transitions. These transitions were driven by social and economic changes.

Gerhard Mensch has shown that basic technological innovations have been occurring in waves fifty to sixty years apart since the mid 18th century. These waves of innovation transformed productive, social and spatial relationships by the new things they made possible. In responding to these new relationships, architects adopted new materials and spatial configurations and retailers sited buildings differently.

Since we are in the middle of a similar period of technological and social innovation, an examination of historical episodes of change might provide insights into what this current round of innovations could mean for the future of retailing. The story begins in England in the 18th and 19th centuries - where retailing as we know it has its roots - and ends in North America in the 20th century.

The History of the Retail Store Since 1750

Before the First Industrial Revolution (1700-1775)

Before the First Industrial Revolution, most people were part of an agrarian economy, producing goods in the home for domestic consumption. Their retail needs were therefore small and infrequent and were satisfied by peddlars and the markets and fairs that took place periodically. Here, goods were displayed on open air stalls or, in the case of livestock, in corrals. A wealthy elite living in major cities such as London, Bristol and York, formed a small market for luxury goods which were available in small, modest timber-frame or brick shops cum houses. Retailers of a particular kind of merchandise tended to congregate together in the same street. The distance of these retail outlets from their clienteles was set by the capabilities of the commonly available means of transportation half a day's travel on foot or by horse-drawn cart in the rural areas or an hour's journey by sedan chair, boat or horse-drawn carriage in London.

The First Industrial Revolution, Phase I (1775-1828)

The introduction of powered machinery and the factory system in textile production brought considerable changes. The early cotton and
woolen mills depended on waterpower and were consequently found in isolated locations. Factory workers worked long hours and were in no position to produce goods for their own consumption. What they needed they had to purchase with their wages. The retailing needs of the workers were met by truck shops, which were simply a room in a mill. As most of the workers of these early mills were children and teenaged girls and since their wages were low, their retailing needs were few and simple. Purchases were not in cash but in the form of debits from wages.

In existing towns and cities, the new found wealth of the merchants and manufacturers enabled them to move from the centres of towns, where they had lived since the Middle Ages, to new suburbs, where they could escape dirt and disease. The high-class shops followed them. Macadamized turnpike roads and regular mail coaches (which were made possible by advances in lightweight construction, the springing of vehicles and the selective breeding of horses) enabled the luxury shops of London to create mail-order businesses to serve the middle and upper classes in the provinces.

**The First Industrial Revolution, Phase II (1828-1880)**

With the advent of steam power, industrial textile towns sprang up next to the coalfields. Railways and canals provided the transportation capacity to keep these new urban populations fed. The workforce came to consist of adults because of changes in technology and increasingly negative social attitudes toward the employment of children. Many mills gathered together at these sites, creating concentrated markets of wealthy employers and wage-earning workers. Also, the factory system and steam power were applied to other industries, further expanding urban populations. Large numbers of people with no time to produce for their own needs made regular shopping necessary. Cash wages made it possible. Two levels of retailing emerged. The millworkers were served by the cornershop, the middle class by the High Street. The corner shop was usually the end house in a terrace of worker houses, so that they were withing easy walking distance of their customers who had limited time to shop and could not afford vehicular transportation. The High Street brought numerous stores together on one street, accessible to the servants of the middle class who did the shopping by horse omnibus.

Where the truck shop was run by the mill owner, the corner shop was owner was an independent businessman, who sold mostly foodstuffs. His stock was typically supplied by larger shops on the High Street. Most
high street purchases were made on credit. Corner shop customers paid cash, though frequent resort was made to the “slate” as money ran out towards the end of the week. The innovations of plate glass and coal gas lighting led to the familiar appearance of modern shops, with brightly lit display windows.

Direct sales of small, high value goods like needles, thread and buttons to the rural population through peddlars had been a feature of the pre-industrial economy. Now, the combination of a cash economy and the immobility of the urban wage worker led to their adoption in the industrial towns and cities. Workers frequently bought their clothes from a “scotch draper” who came to their homes, made the measurements, showed fabric and style samples and carried the order to a clothing manufacturer. When the clothing was ready he delivered it.

The Second Industrial Revolution, Phase I (1880-1937)

A transportaion revolution - steel ships and transcontinental railways - made it possible to draw on global food resources to feed huge metropolitan populations. Combined first with the telegraph and then with the telephone, they made national corporations and markets possible, served by huge corporations centred in major metropolitan areas. Industries scaled up dramatically, and employment, productivity and wages rose rapidly. Huge populations of well-paid people able to move around cheaply by urban railway and electric tramcar served to create enormous retail markets extending hundreds of square miles. From Paris to Chicago, retailers responded with multi-storey department stores, covering entire blocks in city centres. They also moved from credit to cash as the large investment in the stores represented required a reliable cash flow. The stores were made economical by cheap plate glass and steel-frame construction. Widespread outlets accessible on foot, combined with railways and affordable postal services, created the mass mail-order business. The number of consumer products exploded. The weekend was invented, giving people ample time to shop on Saturdays, at first half a day and later a full day. Professionals, managers and tradespeople followed the factory owners to the suburbs. In turn the factory owners fled these newcomers and moved to rural villages, where they built elaborate villas. The high-class shops followed.

There was also a significant change in social values at this time, from conserver to consumer values. This change is most evident in the clothing trade where emphasis went from durability (a coat or shirt would have
several different owners before it went to the paper or felt manufacturers) to style (a change of coat or shirt every year as fashion dictated).

**The Second Industrial Revolution, Phase II (1937-1992)**

The application of assembly-line techniques to a broad array of consumer products industries caused a leap in productivity and a cornucopia of blue- and white-collar jobs. Rising productivity translated into rising wages and so was born the Great American Middle Class. The average person came to enjoy products reserved for only the most wealthy half a century before: private music concerts (the phonograph), theatre (television) and private transportation (the mass-produced auto).

Rising manufacturing wages and the emancipation of women forced rising wage costs in retailing. Since opportunities for substituting machines in the labour-intensive retailing sector were limited, retailers controlled costs by divesting activities, first packaging and then customer service, and by relocating to the suburbs, where land costs were less, thus reducing overhead costs. The ubiquity of the automobile freed retailers from public transportation routes. Consequently, retail space requirements and location changed. The suburban supermarket and the suburban mall were invented. Working hours shrank, giving much more time for leisure and shopping, even during the week.

**Patterns of Development**

Several patterns of development can be identified.

**The Retail Store**

Each wave of technological and social innovations has led to innovations in retailing: the water powered mill led to the truck shop, the steam powered mill to the corner shop and the high street shop with illuminated display window. National markets and metropoles led to the department store, which in turn led to the shift from credit to cash as the means of payment. The automobile and cheap gasoline led to the supermarket and the mall. Long periods of relative stasis in the dominant paradigm of retailing were punctuated by sudden transitions in which the sector was radically altered in only one or two decades.

Changes in transportation technology were particularly important in this process. The mail coach and macadamized roads, the horse omnibus, the urban railway and the automobile all directly affected the mobility of
customers and the reach, nature and location of retail outlets. The railway and the steamship also had a significant though indirect effect, by making it possible to feed and supply metropolitan populations. And advances in communications made possible the development of mail-order and catalogue retailing. Social changes included rising incomes and sweatshop clothing production. Brought on by the Second Industrial Revolution, these changes made it possible to make the transition from a conserver to a consumer ethic.

More money and lower prices for clothes enabled all social classes to change their wardrobes more often. Mass advertising, made possible by the advent of mass-circulation newspapers and magazines - themselves by-products of the innovations of wood pulping and the Fourdrinier paper machine - persuaded consumers that this was fashionable thing to do. In this way, consciousness of style and fashion filtered down from the middle- and upper-classes to the lower classes.

Footprint

The size of the footprint of a retail store (in terms of the radius in kilometres from which customers and products come) has grown enormously since 1750. Perhaps more important, the energy required to transport every customer to a store has increased by a multiple of the distance radius (as implied by the shifts from foot to horse omnibus to urban railway to automobile). The floor area has grown from 20 m² to thousands of square metres.

Riding the Demographic Curve

Retailing for the last 250 years has been riding a rapid rate of population growth caused by a decline in death rates, particularly among infants and children. The sector has also benefited immeasurably from the convenient gathering-together of this rapidly growing populations in urban centres where they are easier and more economical to serve in very large structures served by mechanized transportation systems.

Technological Change

Rapid technological change in the industrial age fostered rapid economic growth and rising standards of living. For the retailing sector, the benefit of this type of change has been the creation of consumer culture. For industry, the benefits of technological change have been a vastly improved transportation system and stronger, cheaper and lighter structural materials, making it possible to enclose vast spaces economically.
Cost Control

Rising wage and land costs forced the retail industry to follow several cost-cutting strategies: pushing packaging onto the manufacturer and wholesaler; having customers serve themselves; and relocating to the suburbs.

Social Values

Social values changed with each socio-technical transition. The really large shifts occurred with the First and Second Industrial Revolutions. With the First, "getting on with your neighbours" was replaced by a climate of extreme social competition; with the Second, consumer ethics replaced traditional conserver values.

Income and Wealth

Each successive wave of innovation has buoyed ever-increasing proportions of the population to higher levels of income and wealth.

The Preferred Place to Live

With each innovatory wave there has been a change in the place most people prefer to live. The preferred place to live is the gentleman's country house, in various guises. The merchant's summer house, the manufacturer's suburban villa, the returning GI's Levitt Town tract house and the 1950s California suburban ranch were all echoes of the perennial dream of living a comfortable life in the country. For those who can afford it, this is the perennial dream. It can be traced to Ancient Rome and China. The only thing that has changed with the passage of time is the proportion of the population able to buy into the dream. The number who can is now at a very high level, and this is what is behind a significant part of the contemporary rush to live in small towns and their rural fringes which Dr. Jack Lessinger has documented and named Penturbia.

For those without a comfortable income, or portable job, the dream remains only a dream. They must pursue economic opportunities where they are. The best opportunities in pre-modern times were in the trading cities, but they were relatively few. Most people found their opportunity in the countryside, in agriculture. With the commercial and industrial revolutions this changed. In the first phase of the industrial revolution the upland mill town became important. In the second phase, the industrial town located close to the coal fields which fueled its steam engines.
took over. With the first phase of the second industrial revolution the focus shifted to large metropolitan centres. In the second phase, people in the West moved to the suburbs; people in the industrializing Third World congregated in enormous megacities like Rio de Janeiro, Mexico City, Bombay and Manila.

Retailing follows people. Where they go, it goes. It has been a preponderantly urban activity because, historically, it has needed a densely populated location to operate economically. With each wave the proportion of the population living in towns and cities has ratcheted up a notch and this has enabled retailing to expand.

The Future: The Third Industrial Revolution (1992-2047)

To determine the future of the retail sector, it is necessary to reflect on past patterns and the influence of demographics on market opportunities and the location of the retail sector's clientele. Equally important is to surmise on the strategies that will be developed to deal with the growth in wages and land prices in the next wave of economic development; how retailers will respond to the current impetus away from consumption and toward conservation; how the industry will adapt to telecommunications and transportation innovations; how it will deal with slowing population growth in advanced economies and how the industry will square the circle of satisfying the one-hour rule its customers follow with the fact that the fastest-growing populations in North America are in rural locations, not the old metropolitan centres.

It is inevitable that there will be radical departures from past practice. We have only to look to the effects of the previous two industrial revolutions, with their shifts from market to shop, and from shop to mass merchandising.

How can we anticipate what these departures might be? Clearly, it wouldn't have been possible to simply extrapolate from the small two-storey mid-19th-century drapery or grocery store to the department store, which combined both functions in a multi-storey building covering an entire city block. To forecast this, one would have had to have tracked and analyzed several factors:
- the technical revolutions in steel manufacture;
- the development of the steam ship and the transcontinental railway and their effects on food supply for metropolitan populations;
- the passing of the Great Depression of the 1880s and 1890s and the
mass employment and high wages in the new large-scale industries, such as chemicals, steel, pharmaceuticals and electrical and communications products that followed;
• the development of the dynamo and the electric motor and their application to trams and urban railways;
• the ease of movement for large numbers of people to a single location able to accommodate them, which these developments implied;
• the shift from credit to cash as the means of payment without which the cashflow could not have been generated to sustain these retailing behemoths financially;
• the change in social values from conservation mindedness to consumerism, which accompanied these changes; and
• the implications for the growth of metropolitan areas and their populations.

In order to anticipate the impacts of the Third Industrial Revolution on retailing, it will be necessary to conduct a similar survey of technological, economic, social and cultural trends.

The Third Industrial Revolution promises to be as transformative as the First, which because of mechanized goods production, destroyed the socio-economic system and created an enormous split in living standards between owners and everyone else. Our point of comparison is not the Second Industrial Revolution, which merely scaled up the mechanization process begun by the First.

Economics of Retailing

The Third Industrial Revolution is achieving social and economic transformation by mechanizing information collection, analysis and dissemination. If it follows the pattern of the First, it will destroy the old industrial way of life. The owners of the new systems of production will amass great wealth while the majority will suffer a drop in living standards. The mass consumer market of the industrial era will be replaced by two new markets: the elite of the “New Economy” and everyone else. Not until the Third Industrial Revolution matures in the middle of the next century will it provide a broadly based prosperity.

In the future we can anticipate that there will be an equivalent to the early 19th-century corner store that will serve the low end of the market, as well as an equivalent to the luxury shop for the well-to-do. The former may well be found in electronic shopping where standard items are offered at very low prices; the latter may be found in the artisan-retailer and the customizing boutique (see below).
The technologies of the Third Industrial Revolution will mean much more flexible and dispersed production and distribution systems; economies of scale in production at much lower scales of output; a more dispersed pattern of population distribution; and the support and promotion of virtual organizations composed of independently-owned organizations that create synergies through specialization and complementarity. All these things suggest much greater scope for combinations of smaller, more specialized manufacturers and retailers as compared to the chains. In its heyday the department store catered to Everyman. Now it is in decline because it can’t compete on the basis of price with the specialized superstore chains. In the future, the superstores may find they too will be unable to compete with a virtual chain of boutiques, this time on the basis of customization.

Demographics

With birth rates at or below replacement levels in the developed countries, retailers are facing the prospect of stable populations after two and a half centuries of rapid growth. Moreover there are signs that population densities may be starting to decline in Western Europe and North America where population in rural areas away from the metropolitan centres have been growing faster than the metropoles. This is taking two forms: the industrialization of metropolitan exurbs (what Joel Garreau calls Edge Cities) and the growth of old small centres remote from metropoles (what Jack Lessinger calls Penturbia). Retailers will have three options: compete for a static market in metropolitan areas; compete for the growing markets in Edge City and Penturbia; or become transnational and expand into Third World markets. In edge city they can continue with the suburban mall model. To move into Penturbia, however, they will, have to learn how to serve low-density urban-rural populations with metropolitan standards of convenience, product sophistication and breadth of choice. To move into Third World markets will require them to learn how to operate as transnational companies in other languages and cultures.

Two-income families, home-based businesses, flexible workforces and other demographic factors indicate that people will have less time for shopping. Being able to shop conveniently from the home or in the neighbourhood will become paramount.
Social Values

The growth of incomes and the level of education of the people involved in the new economy of the Third Industrial Revolution will result in large numbers of people reaching what Maslow calls self-actualization they will no longer be focused on the necessities of life and status. Instead, their concern will be for personal fulfillment and growth. Those who achieve self-actualization are not the status consumers of today’s retail markets. They will be more concerned, in a personal way, with a product’s functionality and aesthetics; they will demand a high degree of customization.

Perhaps the coutourier is the future paradigm for retailing, but with an information era twist in that computer communications and CAD/CAM systems will enable customers to become involved in the design process. The functions of manufacturing, retailing and consumption will begin to merge. The role of the artisan retailer will expand.

The move away from consumer and towards conserver values implies a change in the nature of retailing and the design of the retail store. People will be looking for durability and recyclability in goods, and so will look kindly on retailers whose method of retailing embodies “green” values.

Longitudinal studies of individual values (by Paul Ray in the United States and by Michael Adams in Canada) suggests that the proportion of the population which has adopted these values has increased from less than five per cent in the early 1960s to between one fifth and one third today.

Technological Change

The last two waves of technological change each embodied about 40 basic innovations. Marchetti estimates that the current wave will contain about 100, which indicates a scale of technological change much larger than anything that has transpired previously.

Transportation technologies will be key. Technological forecasts suggest that the maglev is a likely next stage in passenger transportation. By historical analogy to previous transportation revolutions and the application of the one-hour rule, a “heavy” maglev (made up of inflexible heavy car sets like contemporary high-speed trains) suggests “maglev” cities will be 500 km long (the distance a maglev can move in one hour). Some of these “cities” will transcend national borders. Where do you shop in a
A mega-city that extends from Paris to Milan? What is the optimum delivery system for the retailer of specialty items - a mega-mall on a greenfield site in Switzerland? A "light" maglev (made up of light individually-powered cars that can travel singly or in company and divide at will) suggests the development of a network of small to medium-sized communities, similar to Peter Calthorpe's Pedestrian Pockets. The light maglev points clearly to the virtual retailing model.

The Information Superhighway is capable of bringing the store into the home. The success of Dell Computers in selling computers solely by telephone and of Compuserve in selling a wide array of consumer goods and services - its Electronic Mall - via PC and modem, prove this. Delivery of products from the Electronic Mall is provided within 24 hours anywhere within the contiguous U.S.A. "Just-in-time" has come to retailing. How far can electronic retailing supplant the conventional store? If history is anything to go by, to a very great extent. The rapid demise of the department store and its supplanting by "big box" stores is an example of the extent to which one retailing model can supplant another in a very short space of time. Some models die out completely, as the truck shop has. Some survive, but only in niche markets, as the high street shop has survived on Fifth Avenue in New York, Sunset Boulevard in Los Angeles and Regents Street in London, but outside such affluent centres of major metropolises, it has died. The corner store has endured and even gained a new lease of life in the era of two income families and the new urban poor, but it is a minor player compared to the mall today and its role in the past. History says that one model, which fits the new environment best, comes to dominate quite quickly. The virtual store seems to fit the latest new environment best.

The Internet will also make it possible for consumers to take part in design and delivery decisions and to bring collective pressure to bear on retailer's behaviour. Retailing will thus not only move closer to the manufacturer, as it does in the electronic mall model, but also closer to the consumer. It is also likely that the "scotch draper" will become a busy fellow not only in drapery but in all other retailing lines as well, as he searches the Internet for the best deal for clients too busy to do it for themselves (which given the way working hours in North America have been increasing in the past two decades, could mean a great many of us). Already, it is possible to hire someone on the Internet to find an automobile for you at the best price. Similar services have emerged for farm inputs. This is a model which seems likely to grow.
Materials

Several new materials - from carbon fibre to advanced ceramics - have emerged in the past decade or so. What are their applications in retail stores? Will the Swiss mega-mall be a monocoque construction in advanced composites?

Cost Constraint

Retailing is a highly competitive business. It will be more so as the impacts of competition from electronic retailing, customers crossing national borders to shop, the immiserization of the industrial middle class and static populations are all felt. Retailers will continue to seek to reduce costs. We are already seeing some of this: retailers are eliminating expensive decor and fittings, creating the warehouse store; and seeking economies of scale in purchasing and economies of scope in marketing through the creation of the superstore. In their search for scale and low land costs, will retailers develop the super mall on a greenfield site outside metropolitan areas, or perhaps between adjacent ones?

The ultimate in cost-saving is to eliminate the store entirely and to conduct sales and service electronically. CompuServe pioneered this and has been followed by imitators like Amazon. Ebay has recreated the auctions of the pre-industrial livestock markets, but on a world-wide, 24 hours a day, 365 days a year basis. Retailers may move to a hybrid of electronic and conventional retailing, with demonstration cum customization/design boutiques in neighbourhoods combined with electronic ordering and direct manufacturer-to-consumer delivery. Consumers could become their own "scotch drapers", choosing fabrics and designs on-line, sending in their measurements electronically and taking delivery in a few days by UPS.

For standard, brand name products, where touch and feel are not important, and the heavy discounts on conventional retail prices weigh heavily, as it does with low to middle income purchasers, electronic retailing is likely to predominate. For non-standard and high-end, expensive, products the local "touch and feel" boutique with delivery from factory gate to consumer door will be more important. Even in Edge City, in which the mall model is most survivable, price and time budget advantages will erode its capacity to compete with electronic models.
The Preferred Place to Live

As retailing follows people the question of where people will prefer to live in the future is critical to and examination of the future of retailing. There are several trends. It is clear that in North America people are moving to two kinds of location. One is the Edge City or industrialized exurb. The other is in rural and semi-rural areas, which is where the fastest rates of population growth have occurred between the last two decennial censuses in the United States. In Europe, higher income people have been making the same move (inferred from rising average rural incomes, and the growth of rural population, even though economic opportunities in rural areas continue in general to decline). By and large, this means lower population densities and smaller communities.

Another set of trends has to do with the greater locational freedom of high technology businesses and their tendency to follow the locational desires of their knowledge workers and their sources of knowledge. Yet another set surrounds the new communications technologies which radically diminish time and distance and hence the locational decisions of people and businesses. The new high technology industries which are experiencing fastest employment growth are not growing up in the great industrial metropolises. They are either in old cities with first class amenities (e.g. Route 66 and Silicon Glen) or in a rural setting (e.g. Silicon Valley) or in Edge Cities (e.g. in the Los Angeles Basin).

If these trends continue retailers will be faced with the fact that the fastest-growing retail markets will be outside the metropolitan areas. Meeting Penturba's expectations for metropolitan standards of service, product selection and quality will force retailers to innovate an electronic high street. Even in Edge City this will be so, though to a lesser extent, for an Edge City population cannot support the retailing of a wide array of niche or customized products in either the big box or specialty store format.

Conclusion

Historically, technological and social innovations have led to wholesale changes in the technical, economic and social environment within which the retailing industry exists. Each wave of innovations has created a new retailing paradigm. An examination of the nature of the current innovations makes it clear that the current retailing paradigm cannot survive. The new paradigm will embrace the virtual store.
References


