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15. Peddling the Bicycle and the Development of Mass Marketing

Historian David Hounshell (1980; 1984) credits the U.S. bicycle industry as being transitional from armory production techniques to mass-production techniques epitomized by Henry Ford's production of automobiles. He states:

> [P]roduction of the bicycle allowed many bicycle makers to improve current production technology and to introduce entirely new manufacturing techniques which would later become standard in mass-production metalworking industries. In the United States, these changes led almost inexorably to the introduction and soon the mass production and mass consumption of the American "mother cow"—the automobile (1980, p. 175).

He notes that production of Columbia bicycles in 1896 reached 60,000, but Western Wheel Works outstripped its rival by producing 70,000 bikes in that year alone. Ford would not produce more than 70,000 Model T automobiles until 16 years later (Hounshell 1984, p. 224). Since these were only the top 2 of over 300–500 U.S. bicycle producers, making over 1.2 million bicycles per year (automobiles would not top this figure for 20 years (Tedlow 1990, p. 130) and automobile sales would not exceed peak bicycle production until 1920 (Hodges 1994, p. 41), bicycle marketers clearly had their work cut out for them (Harrison 1969, p. 290; Hounshell, 1984, p. 201).

By 1899, the bicycle "boom" had peaked. The Census reported over 1.1 million bicycles, with an aggregate value of over $33 million produced by over 300 firms. Five years later fewer than 250,000 bicycles were produced, and by 1909 only 160,000 machines were built. Domestic consumption of bicycles (production minus exports) declined from $28 million in 1899 to $5.5 million in 1909 (Norris 1990, p. 79; Harrison 1969, pp. 290, 299).

While Hounshell (1980, p. 175) credits the industry with the development of "slick mass-marketing practices" to create this bicycle "boom," his work does not document the industry's contribution to mass marketing, but only to mass production. Despite Steiner's (1978, p.37) estimates that annual U.S. retail sales of bicycles probably exceeded $60 million in the mid-1890s, and Coon's (1948, p. 83) calculation that between 1890 and 1896, Americans spent over $100 million on bicycles, marketing historians (e.g., Tedlow 1990; Fullerton 1988) with a few exceptions (e.g., Wood 1958; Presbrey 1929) generally ignore the marketing innovations of the bicycle industry.

Similarly, most bicycle historians (e.g., Beeley 1992; McGurn 1987; Ritchie 1975) appear to attribute the large sales of the "boom" to technological innovation such as the invention of the diamond-frame safety bicycle (the modern bicycle), the reinvention and development of the pneumatic tire, and dramatic decreases in bicycle weight and price. The average bicycle weighed 42 lbs. and cost $120 in 1890, but weighed only 22 lbs. and cost $45 in 1895 (Trescott 1976, p. 56). Bicycle historians largely ignore the active marketing efforts of bicycle sellers. Two exceptions are Fitzpatrick (1980) and Smith (1972).

Synopsis

While the bicycle industry has been recognized for its contribution to mass production in the late 1800s, it has not been generally recognized for developing mass marketing techniques to sell the bicycles it produced. The bicycle advanced the practice of advertising by developing competitive advertising content, image advertising in posters, research techniques to determine advertising effectiveness, and support for the new media (magazines). The industry also developed new promotional techniques including sponsoring racing teams and obtaining celebrity endorsements. It perfected the trade show and annual model changes. Most significantly, the bicycle of the late 1800s was marketed using segmentation techniques that have been thought to have been developed more recently.

This paper will document the marketing efforts of the U.S. bicycle industry in the late 1890s in an effort to define the industry's contribution to the development of mass marketing. That is not to say that the bicycle industry wholly created modern mass marketing. The bicycle did benefit from prior efforts to sell other durable products such as sewing machines and farm machinery. These industries had developed the concept of installment sales which the bicycle industry adopted.

Furthermore, the industry was not innovative in establishing new channels of distribution. Rather, until bicycles were requested by the new channels—large department stores and mail order sellers—bicycles were sold through independent agents at uniform prices, regardless of shipping costs (McGurn 1987, p. 69). Smith (1972, p. 10) describes this practice as innovative: "Pope became the founder of marketing techniques that saw their grandest flowering in the sales of automobiles." However, McKenderick, Brewer & Plumb (1982) document that uniform pricing was well established in 18th-century England.

Regardless of whether this uniform pricing idea was new to the U.S., the bicycle was the first expensive, durable luxury item to be mass marketed throughout the country. Bicycle marketers excelled in three areas: advertising, promotion, and segmentation. Each will be examined in turn.

Advertising

Estimates of amounts spent for bicycle advertising range from Bates' incredible estimate of $1 billion in 1897 (1902, p. 241) to Steiner's calculation (based in part on Presbrey's higher estimates of $6–9 million) of $4–6 million per year for the manufacturers and another $1 million for retailers (1978, p. 37). This would result in an advertising to sales ratio of 6–10%.

Presbrey (1929, p.363) notes that in 1897, bicycle advertising accounted for 10% of all magazine advertising spending. He further cites a 1898 tally of over 2,500 advertisers in national magazines finding that 5% were bicycle advertisers. Similarly, Sherman (1900, p. 20) found that individual bicycle advertisements peaked in *Harper's* magazine in 1896, when they also accounted for 5% of all advertising. Thus, this one item, the bicycle, accounted for 5% of magazine advertising placements, but an even higher proportion of magazine income because the size of bicycle advertisements tended to be larger than average.

Advertising commentators also describe the support the bicycle industry gave to the "new media" of the day, magazines in terms of pages rather than placements. Presbrey (1929, p. 410) notes that in the early 1890s, the Pope Manufacturing Company used large format ads, quarter page, and occasional full page ads, in magazines for its Columbia brand bicycles. He adds (p. 412) that 12 pages of bicycle advertisements in a magazine with 60 pages for all other product advertising was common in the mid-1890s. Bates (1902, p. 241) claims that in the days of the bicycle "boom," magazines and high-grade weeklies carried more bicycle business than anything else. He notes that one issue of McClure's magazine contained forty and one quarter pages of advertising devoted to bicycles and bicycle-sundries. Presbrey (1929, p. 410) concludes: "Especially is the development of magazine advertising indebted to the bicycle, for the bicycle gave the magazine a measure of recognition as a medium which encouraged the use of large space there and more frequent insertion by advertisers in general."

This advertiser support helped convert old magazines and create numerous new magazines that were no longer financed primarily by subscribers, but rather by advertisers (Goodrum & Dalrymple 1990, p. 31). This was the beginning of advertising-financed media seeking mass circulation in order to please its mass advertisers.

With bicycle marketers and others spending vast sums on advertising branded products in magazines, the question then arises, was this advertising effective in producing new sales? In the case of bicycles, the dramatic increase in sales through the "boom" of the 1890s would appear to support the effectiveness of bicycle advertising. Coons (1948, pp. 84–85) notes the hysteria of other merchants during this period who proclaimed that their sales were devastated by the bicycle. For example, barbers complained that their customers, rather than getting a shave and going out, would ride their bikes instead: "when a man skips a shave today, we can't sell him two shaves tomorrow."

Presbrey (1929, p. 413) notes the growth of advertising expenditures of a single firm—Monarch Bicycles. In its first year, 1893, Monarch spent a few thousand dollars and sold 1,200 bicycles. The next year, it spent $20,000 and sold 5,000 bicycles. In 1895, $75,000 worth of advertising sold 20,000 bicycles and in 1896, $125,000 was spent to sell 50,000 bikes. Monarch's advertising outlays were modest compared to the market leader. Pope

Fig. 15.1. Advertisements showing two different street addresses for the Pope Manufacturing Company.

Manufacturing spent more than one half million dollars in advertising in 1896 (Anonymous 1897, p. 277).

However, if bicycle advertising was so effective, why did the "boom" end at the turn of the century? Steiner (1978) and Bates (1902) suggest that the newly formed bicycle trust cut advertising, which at least partially caused a decline in sales. However, there is a chicken and egg problem here. The bicycle trust cut advertising because bicycles were in over supply, so the decline in sales probably began before the decrease in advertising expenditures. Steiner (1978) also suggests it was inevitable that the bicycle be replaced by the car, but automobile sales did not overtake bicycle sales until 1913 (Hodges 1994, p. 41). The mystery of why "the market for bicycles simply vanished" (Hounshell 1984, p. 193) cannot be definitively resolved.

There is other evidence of the effectiveness of bicycle advertising besides the correlation between increased advertising expenditures and increased sales. Colonel Albert Pope may have been the first manufacturer to devise a research methodology for monitoring advertising effectiveness:

> I remember we adopted the method of giving a different store number in each advertisement, so that a great many people thought we owned both sides of the street for a mile. For several years, we kept this account and it satisfied us finally that the best and highest priced mediums were the ones for us to stick with (Anonymous 1897, p. 277).

Fig. 15.1 evidences this system by showing two Columbia ads listing different street addresses.

Bicycle advertising's effectiveness also appears related to two marketing innovations—its competitiveness, and imagery. Wood (1958, p. 276) explains why bicycle advertising was uniquely competitive:

> Bicycle advertising was pumping just as hard as the bicycle factories and the bicycle riders themselves. This was a new kind of advertising. It was noticeably different in many ways from other kinds of advertising. Many of the large regular advertisers had the field to themselves. It was Pears and Ivory soap, James Pyle's, Pearline, and Sapolio. Their advertising was not competitive....[E]ach had a virtual monopoly. In contrast, bicycle advertising was strongly competitive. It was not for a low-priced article which cost little to make and was quickly consumed, making for constant repeat purchases. It was for an item of comparatively complex manufacture, expensive, and durable. The advertising was competitive. It was for a completely new product, it was based on new appeals, and offered new enticements.

The competitiveness of bicycle advertising was derived in part from technical claims of mechanical and engineering features which served as basis of comparison between brands for consumers (Presbrey 1929, p. 412). Hotchkiss (1938, p. 211) notes:

> The first great industry to show the effects of national advertising was the bicycle industry. Beginning in the 80s and continuing through the 90s, the magazines, newspapers, and posters heralded each improvement in construction, and gave the arguments of rival manufacturers. On the surface it was a competitive struggle for the choice of the buyer; in reality it was a continuous education regarding the benefits of this new method of locomotion.

While so called "reason why" advertising was commonly used in 18th-century England (McKenderick, Brewer & Plumb 1982, ch. 4), bicycle advertising advanced this practice through the use of direct, albeit implied references to competitors. Bates

(1902, p. 240) notes that advertising for Victor brand bicycles often implicitly alluded to arch-rival, Columbia. In one ad, referring to a Victor innovation adapted by Columbia, the headline read: "Men originate; Apes imitate." A second ad, referring to Columbia's new racing model with blue wheel rims, stated: "We have no rims of cerulean hue, but we continue to get there—with both feet too."

Stanley Ulanoff (1975) notes that article, comparative advertising used to be commonplace, but until the 1960s was virtually unused in the U.S. and condemned by industry self-regulation. Perhaps this "taboo" on comparative advertising is related to earlier criticism of bicycle advertising for being too competitive. Bates (1896, p. 431) argued:

> I believe that it is a mistake to make attacks on other bicycles. I believe that attacks should not be answered—at least not directly—unless they are of such a character that they can be answered through a court of law....Let the other fellow talk about you all he pleases; let him spend all the money he wants to in advertising you. The more he talks, the more people will know about your product. He is helping people to the knowledge that you are on earth and doing business; he is telling people very plainly that you amount to enough to worry him considerably.

At the same time that bicycle advertising was often competitive, other bicycle advertising emphasized image:

> In physical development of the advertisement the bicycle manufacturer took the lead. In art and typography and copy he made contributions which gave advertising as a whole a new attractiveness. The first American advertisers to use the art poster and the first to engage artists like Maxfield Parrish to do advertising work, the bicycle manufacturers worked an improvement in the art of advertising which by itself not only made their publicity more resultful but gave other manufacturers a new view of the dignity of advertising quite different from the impression created by the long era of patent-medicine leadership (Presbrey 1929, p. 412).

In fact, the bicycle industry was recognized as a leader in the use of artistic posters in advertising (Margolin, Brichta & Brichta 1979, p. 43; Margolin 1975, p. 43). Bicycle advertising posters were

Fig. 15.2 and Fig. 15.3. Posters for Sirius and Déesse bicycles, equating the bicycle with the image of flight.

produced throughout the world by the leading poster artists of the day (Rennert 1973; Weill 1985).

One example of the promotion of poster art to sell bicycles was the 1895 poster art contest held by the Pope Manufacturing Company. Prizes included a Columbia bicycle valued at $100 for 4th place, and the same bicycle with cash for the top 3 artists. The first place prize of $250 plus a bicycle was awarded to renowned poster artist, Maxfield Parrish. Over 600 posters were submitted to this contest by over 400 artists. Many of these submissions were placed on exhibition in Boston, where more than 15,000 people reportedly viewed the show. The exhibition then was displayed in other major cities throughout the country (Pope Manufacturing Co. 1896).

In contrast to technical claims about the quality of construction or components in "competitive advertising," several pictorial themes and artistic styles emerge in bicycle poster advertising. First, the bicycle is often equated with the image of flight and light weight as the posters for Sirius and Deesse bicycles (Figs. 15.2 and 15.3) illustrate. Birds or fast running dogs are often shown in bicycle poster advertising as symbols of both of these images (Sanders 1991, p. 131; Rennert 1973, p. 75). Barnicoat (1972, p. 163) suggests that such posters are early examples of the artistic style now called "surrealism," which was popular in the 1920s. Both of these posters also show a scantily-clad woman or perhaps goddesses in an apparent effort to relate the bicycle to ancient classical Greece as well as attract the notice of male potential purchasers. As Nick Sanders (1991, p. 130) states:

> It would seem that [bicycle poster artists] who depict scantily clad and sometimes nude women, were not only contrasting the softness of female beauty to the hardness of the machine itself, but had realised that revealing more of the woman's body commanded a greater attraction to their posters and thus a greater visibility to the product or event they were advertising. The effectiveness of this approach foreshadowed the continued exploitation of women in advertising, resulting in today's maxim "sex sells."

In contrast, the poster for American Crescent (Fig. 15.4) shows an attractive woman, but more fully

Fig. 15.4. Poster for American Crescent, in Art-Nouveau style.

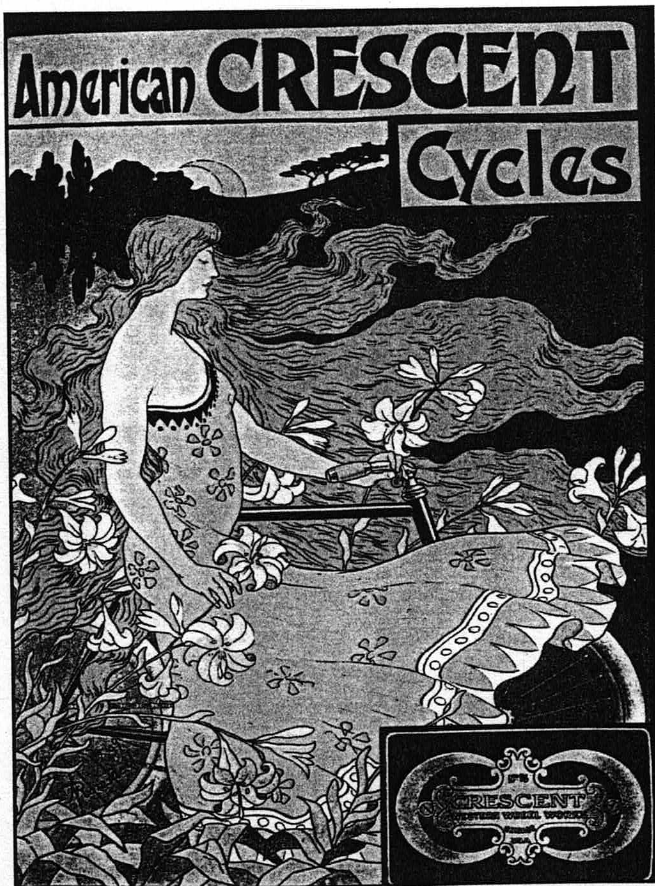


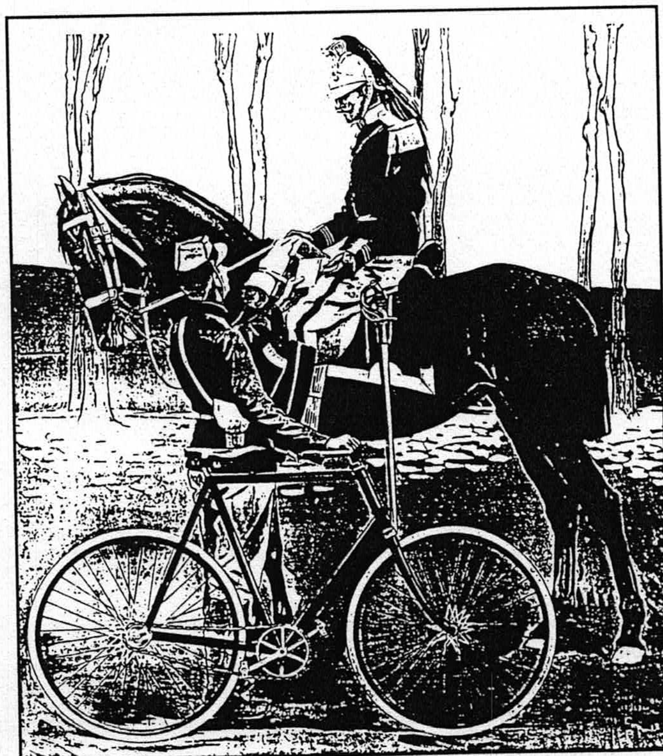
Fig. 15.5. Realistic poster illustration for Humber.

dressed in an Art Nouveau style. The image suggests effortless speed even though the woman is merely holding, not riding, the bicycle. The last example, a poster for Humber bicycles (Fig. 15.5), later acquired by Raleigh, shows a realistic scene with a "new woman" of the 1890s leading a ride and beckoning to her companions, at least one of which is male, to catch her. Again the ride seems to be effortless on her part, no doubt because of the quality of her bicycle.

Bicycle posters also portrayed the relationship between the bicycle and preceding modes of transportation. Gallo (1974, p. 94) suggests that the poster for Peugeot bicycles (Fig 15.6) shows the bicycle to be "as noble a steed as the horse." However, the bicycle in the picture appears in a subservient position to the horse, and is being held by a lower ranking soldier who is handing a message to his superior officer mounted on the horse. The poster may be appealing to members of the middle class who aspire to upper class status, or may be showing how the practical bicycle has largely replaced the horse, which is now only used occasionally as a symbolic means of transportation.

A poster for Terrot cycles and automobiles suggests that the train too is outmoded as a means of transportation. A taunting "new woman" expends little effort to keep ahead of a furiously steaming locomotive. Nick Sanders (1991, p. 129) also notes that the woman controls the bicycle with one hand in the center of the handlebars, showing great ease of handling. Similarly, Fig. 15.5 shows that the Humber bicycle can be easily controlled with one hand.

Fig. 15.6. Illustration from Peugeot poster, about 1890.



The images presented by these and numerous other bicycle poster advertisements may still be deemed "competitive" in the sense that they all suggest no effort is needed to "fly" on the advertised brand of bicycle. Some posters explicitly show other bicycles or horses and trains to be outmoded. However, the image advertisement presents its selling message to the emotions of the viewer, in contrast to the written message to technical superiority presented to the reader's analytical intellect.

The contrast between these two types of bicycle advertising, not only in the industry, but often the same company, may have contributed to the famous advertising debate in the early 20th century. Proponents such as Albert Lasker and Claude Hopkins argued that advertising should be "salesmanship in print," and therefore should adopt "reason why" copy. Others, such as Clowery Chapman, advocated that advertising was "persuasive art; mental images, not rational arguments, cause the prospective customer to buy" (Lears 1988, p. 258).

According to Lears (1988, p. 260), by 1925 "reason why" and atmosphere advertising converged. Both could co-exist in the same advertisement or in different campaigns for the same product. The example he provides is 1925 corset advertising, but bicycle advertising suggests that these two types of advertising coexisted even before the debate that distinguished them.

Promotion

In addition to advertising, the bicycle industry used other methods of promoting its wares. Some activities of the bicycle industry promoted the activity of cycling generally. Albert Pope, founder of the American bicycle industry and the Columbia brand of bicycles, promoted cycling in many ways. He helped to start both local cycling clubs as well as the League of American Wheelmen, the first and still continuing national organization of bicyclists. He fought legal restrictions of bicycling and lobbied extensively for improved roads. He also financed bicycle magazines and books (McGurn 1987).

The bicycle industry also developed techniques for promoting individual brands. The advertising technique of claiming members of royalty using the advertised product dates back at least to 18th-century

England (McKenderick, Brewer & Plumb 1982). Bicycle manufacturers adopted this practice, particularly in Europe where members of royalty became interested in the fad of the wheel. Bicycle marketers also improved this practice by not merely referring to royal users in advertising, but by obtaining actual advertising endorsements in the form of specific quotations of royalty. Turner (1965, p. 104) describes endorsements of two princes, including one whose endorsement was in French, in an advertisement that was otherwise in English.

Bicycle companies also hired famous cycling athletes to promote their products. Albert Pope hired Will Pitman, noted velocipedist (a velocipede was the earliest form of pedal-operated bicycle) to demonstrate his 1878 Columbia high-wheel bicycle. Interest was so strong that Pitman was arrested in New York City for causing a disturbance. Pope enjoyed free publicity as the New York newspapers debated the fairness of this arrest (McGurn 1987, p. 68). Pitman went on that year to win the first 1-mile bicycle race ever run in this country (Smith 1972, p. 144). Needless to say, he was riding a Columbia.

Similarly, cycling champion A. A. Zimmerman was sponsored in 1892 by Raleigh bicycles when he became world champion. Raleigh riders won no less than 2,300 racing prizes, as the advertisement in Fig.

Tribune Bicycles

When Mile-a-Minute Murphy accomplished his wonderful feat of riding a Tribune a full mile in less than 60 seconds behind a special train, he established a wheeling record which is likely to remain the record for years. The Tribune combines the qualities of strength and speed in such a way that full confidence is placed in the wheel—the easy-running Bicycle.

Send for TRIBUNE CATALOGUE.

Bevel Gear Chainless, $75.00 Chain Models, $40, $50, $60.

AMERICAN BICYCLE COMPANY,

Featherstone Sales Department,

CHICAGO, ILLINOIS. 48 Warren Street, New York.

Figure Seven
Bicycle Promotion

THE RALEIGH

2,300 PRIZES

A.A. ZIMMERMAN, N.Y.A.C.
CHAMPION OF THE WORLD
AGENCE GÉNÉRALE 76, AVENUE DES TERNES
PARIS

THE STRENGTH OF THE ECLIPSE BICYCLE is one of its best features

Eclipse

16 TO 1—16 MEN ON 1 BICYCLE
From a Photograph taken at our Factory
THE NEW '97 MODEL IS A BEAUTY
The Prices: $100, $75, $60, $50
SEND FOR OUR CATALOGUE
ECLIPSE BICYCLE COMPANY, Box B, Elmira, N. Y.

Fig. 15.7. Bicycle promotion.

15.7 shows (Bowden 1975, pp. 18–19). In 1899, C. W. Murphy, noted bicycle racer, became "Mile-a-Minute" Murphy as he became the first person to travel 60 miles per hour under his own power while "drafting" behind a locomotive (Smith 1972, p. 138). Tribune Bicycles, of course, featured this feat in their advertising (Fig. 15.7). Lastly, the simple stunt of placing 16 men on a bicycle to show its strength also is illustrated in Fig. 15.7.

The practice of linking bicycle advertising to the performance of bicycle racers was commonplace. Remington Arms advertised that the winner of the Irvington-Milburn Road Race had used one of its "scientifically constructed" bicycles. Waltham Manufacturing proclaimed that famous racer, Walter Sanger, rode one of their bicycles, neglecting to inform anyone that he was paid by Waltham to do so (Smith 1972, p. 34). Jim Fitzpatrick (1980, p. 47) quotes from the *Austral Wheel* to note:

> ...when a champion pulls down a record the credit of his victory is claimed by the builder of his machine, the maker of his tyres, the patentee of his saddle, and the manufacturer of his chain. Then the oil with which the chain was lubricated, the toe-clips which kept his feet on the pedals, the shoes he wore, the training oil used by him, the soap he patronized, and the pills which set his liver right, all have a share in the victory. The man himself is little else but a pedalling advertisement.

Another interesting aspect of bicycle promotion was the evolution of the annual trade show and annual model changes. The first cycle trade show in the U.S. was held in 1883 in Springfield, Massachusetts (Smith 1972, p. 31). This was preceded by the Stanley Show in England, established in 1878 (Beeley 1992, p. 79). In the U.S., annual shows began in 1891, and by 1894 big exhibitions were held in both Chicago and New York. These shows peaked in 1896 with over 225 exhibitors in Chicago and over 400 in New York. Many famous people and lots of fanfare accompanied them (Smith 1972).

Although Smith (1972, p. 19) claims that planned obsolescence originated with the bicycle industry, in fact McCormick developed annual model changes for expensive, durable products in the 1840s (Hounshell 1984, p. 159). Furthermore, periodic "fashion" changes for less expensive products dates back at least to the 1700s (McKenderick, Brewer & Plumb 1982).

A key difference appears to be that McCormick's product changes were primarily motivated by experimentation and competitive pressures. While this was likely true for the early years of the bicycle industry, once the safety bicycle was perfected and pneumatic tires adopted, annual model changes appeared to contain little innovation, despite promotional claims to the contrary. According to Smith (1972, p. 19), both the *New York Times* and the *New York Journal* accused the industry of making minor stylistic changes that served no useful purpose other than increasing sales.

Thus, while McCormick originated annual model changes, the bicycle industry may claim the dubious distinction of originating the specious or stylistic model change. Hounshell (1984, p. 186) asserts that Henry Ford's gross over-production made stylistic annual changes a necessary marketing strategy, but the bicycle industry clearly first adopted the annual model change as a marketing strategy.

Market Segmentation

Tedlow (1990) asserts that there are three phases in American marketing history. The first "fragmentation" characterized the early 1800s when markets were local and low volume because transportation costs were high. After the 1880s, some industries passed into phase two, market unification where dominant firms unified the national market under one or more existing brands. Clearly the U.S. bicycle industry led by a handful of large firms fits this characterization.

According to Tedlow (1990), phase three, segmentation, did not begin for automobiles until the 1920s, and for most other products, such as soft drinks, not until after WWII. This phase still enjoys high volume marketing at a national level, but employs demographic and psychographic segmentation to create divisions in the national market that can be targeted by different firms.

Other authors believe that market segmentation began before this century. For example, McKenderick, Brewer & Plumb (1982) argue segmentation occurred in 18th-century England. Hollander & Germain (1992) present examples of youth-based segmentation occurring in the 1880s in this country.

This paper also disagrees with Tedlow by showing that the bicycle industry followed segmentation strategies beginning in the 1870s. Contrary to Henry Ford's marketing of the Model T as a universal car, bicycles were marketed to various discrete segments defined by usage, price, gender, and image/lifestyle.

Functional and youth-based segmentation in the bicycle industry first became obvious in the days of

the high wheeler. Generally speaking, only young fairly athletic men would pedal perched precariously upon a penny farthing. The industry developed all sorts of tricycles for women and risk-averse men. Even with the dominance of the safety bicycle by 1890, different models were marketed to different segments such as racers, tourists, and women.

Furthermore, during the bicycle boom, specialized bicycles were made for even narrower functional segments. Bicycle advertising and catalogs also touted delivery bicycles for carrying and delivering items such as mail, and even a Yukon bicycle for use in the cold wilderness of Alaska during the gold rush.

Price segmentation was commonplace. Albert Pope, founder of the company that produced and sold Columbia bicycles, did not want to tarnish Columbia's premium image with lower priced bicycles. He secretly acquired the Hartford Bicycle Company in 1890, nominally run by his cousin George Pope, to produce mid-priced bicycles. The connection between Columbia and Hartford bicycles was kept quiet until 1895 when the two became officially affiliated (Hounshell 1984, pp. 202–203).

Tedlow (1990, p. 6) states that "value pricing" is one example of modern segmentation. In the 1890s, one value-priced marketer was the Chester Bicycle Company of Indiana. Chester claimed it could sell $100 bicycles for $85 because it did not sponsor a racing team (which it asserted amounted to $10 of the price of other bicycles), did not pay high salaries or commissions, and did not advertise widely. This "low overhead" strategy appears consistent with "value pricing" strategies of today.

As noted above, segmentation based on gender became commonplace in the days of the high-wheel bicycle. It continued with safety bicycles. By 1896, every third bicycle that was ordered was an open frame women's model (Beeley 1992, p 74). This women's model still exists today. Yet gender segmentation started in the 1870s, when a woman's velocipede was marketed which featured skirt protectors over the spoke wheels and both pedals on one side for side-saddle riding (Ritchie 1972, p. 150).

Gender segmentation for bicycles also is apparent in poster advertising. The Humber ad (Fig. 15.5) and the Terrot ad clearly are attempting not to appeal to women generally, but rather to the "new women" who were asserting their right to equality, to travel freely, and to vote. Many other ads contain a similar appeal (Rennert 1973, pp. 22, 30, 41, 45, 47, 51, 64, 70). Other ads directed at women show closer companionship with men on bicycles (Rennert 1973, pp. 32, 61, 73, 81; Gallo 1974, p. 94) or even a family relationship (Rennert 1973, p. 18). Edward Penfield's poster for Stearns bicycles shows a woman coasting on a bicycle with the headline: "Ride a Stearns and be content" (Margolin 1975, p. 43). It is not clear whether this should encourage the new woman, or keep her in her place.

Other psychographic or lifestyle appeals concern bicycling as an activity attractive to beautiful women (Fig. 15.4; Rennert 1973, p. 55), and an activity of the well-to-do (Rennert 1973, pp. 23, 31, 36) or as an equalizer within society as the Peugeot ad in Fig. 15.6 suggests. Indeed in 18th-century England, many products were sold to the middle class by appealing to their desire to emulate the rich (McKenderick, Brewer & Plumb 1982). In contrast, bicycle advertising extended this technique by showing middle-class cyclists in advertising. Instead of appealing to the desire to be rich, bicycle marketers appeared to believe that members of the middle class would recognize and accept the value of their own class status. Of course such advertising also appeals to those aspiring to join the middle class.

Conclusion

The bicycle industry in the 19th century was characterized by mass production, production as a second line by other manufacturing firms, and by small scale assembly and production of components. Marketing strategies developed to stimulate demand for all of these producers. National advertising in magazines promoted competitive qualities and images of major brands. Racing teams and celebrity endorsements further stimulated sales. Segmentation was practiced, both temporarily with annual stylistic model changes for those who "must have the latest wheel," and demographically by appealing to people with different bicycling interests, different sensitivities to price, and different self-images to which marketers appealed. Many of the so-called "modern" marketing techniques were used to sell bicycles 100 years ago.

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