

THE CAR CULTURE

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## 2 EARLY IMPLEMENTATION IN AMERICA

During the first decade of the twentieth century, automobility became an integral part of American life. Contrary to popular myth, the introduction of the motorcar was greeted with enthusiasm by Americans. Shortly after the turn of the century, predictions began to become commonplace that a cheap, reliable car for the masses would soon be built and that within the foreseeable future a utopian horseless age would dawn. By 1905 the annual New York Automobile Show was the nation's leading industrial exhibit. By 1907 the automobile was commonly referred to as a necessity. Despite the drawbacks that cars were then sold on a cash-on-delivery basis without warranty and left much to be desired in performance, the demand for motorcars far exceeded the supply. The new firms operated in an unprecedented seller's market for an expensive item. By 1910 automobile manufacturing leaped from 150th to 21st in value of product among American industries and had become more important to the national economy on all measurable criteria than the wagon and carriage industry. Some 458,500 motor vehicles were registered in the United States in 1910, making America the world's foremost automobile culture.<sup>1</sup>

A mass market for automobiles existed in popular sentiment long before volume production of the Ford Model T made it a reality. The early automobile industry faced formidable technological and organizational problems. But from the introduction of the motor vehicle, public opinion about the potential of the innovation was always in advance of the industry's progress in producing reliable, moderately priced cars in quantity. A result of automotive historians' too narrow emphasis on the internal dynamics of the industry and its prominent personalities has been a production-oriented automotive history that tends to cast the industry in the heroic role of having

created our automobile culture against overwhelming odds, including an apathetic or adverse populace. Their writings accord well with the flattering image that early automotive pioneers later were to develop about themselves. The fault is that automotive historians have not given adequate attention to the sociocultural milieu within which the early automobile industry developed.

By the time the Ford Motor Company was organized in 1903, the belief that the automobile would soon supersede the horse was commonplace. Henry Ford could have derived his conception of a universal car for the masses from any of a large number of newspaper and magazine articles. In a statement released in late 1900 through the Boston News Bureau, a financial information agency, Colonel Albert A. Pope, then the nation's leading bicycle and automobile manufacturer, said: "The automobile will in time be the universal means of transportation, and the future of the American Bicycle Co. rests on the adoption and development of the automobile. . . . I predict that inside of ten years there will be more automobiles in use in the large cities of the United States than there are now horses in these cities." He further declared that 15,000 of his bicycle agents throughout the country were "fairly howling" for automobiles to meet an "enormous demand."<sup>2</sup> Other contemporary observers agreed with Pope. As the principal examiner at the United States Patent Office stated in early 1901, "To say that the future of the automobile is assured is merely to voice an impression which is as common as it is usually vague."<sup>3</sup> John W. Anderson, one of the original investors in the Ford Motor Company, expressed the early popular enthusiasm for the automobile in a letter from Detroit to his father just before the Ford incorporation in 1903: "Now the demand for automobiles is a perfect craze. Every factory here . . . has its entire output sold and cannot begin to fill orders. Mr. Malcomson has already begun to be deluged with orders, although not a machine has been put on the market and will not be until July 1.

. . . And it is all spot cash on delivery, and no guarantee or string attached of any kind."<sup>4</sup>

Newspapers and magazines in the United States, knowing that automobile news fascinated readers from all walks of life, gave the motorcar generous and extensive coverage. Even as early as the turn of the century, *Automobile* felt that "the unprecedented and well nigh incredible rapidity with which the automobile industry has developed . . . is largely due to the fact that every detail of the subject has been popularized by the technical and daily press."<sup>5</sup> In 1902 another journal reported that "a dozen publications thrive in the interests of the industry, while every newspaper of repute has its automobile department, hundreds of special articles are to be found in periodicals of general circulation, the advertisements of makers and dealers find places in almost every high-class publication, and numerous books have come from the publishers."<sup>6</sup> *Horseless Age* in 1903 commented that "fanatical opposition to the automobile is on the whole very rare in this country. The metropolitan dailies occasionally print strong editorials denouncing speed excesses and careless driving, but the whole press is practically unanimous in recognizing the automobile as a legitimate pleasure vehicle and as destined to a great future in the commercial world."<sup>7</sup>

Close cooperation between the press and the automobile industry was established early. On May 13, 1897, Colonel Albert A. Pope initiated the custom of the press interview as an established part of introducing new automobile models to the public. He invited reporters to a private showing of his first electric cars, allowed them to operate the vehicles, and supplied pictures for publication. The press interview was soon institutionalized and became more elaborate. Manufacturers commonly brought reporters long distances at company expense to be entertained and given a preview of new models in the hope that "free" publicity would follow. Automobile clubs, too, undertook "a campaign of education among the newspaper men," which consisted of demonstration rides and furnishing free

news copy on the motorcar. *Automobile* found "nothing ulterior in the motives of a club that undertakes a campaign along the lines suggested—it is merely placing the moulders of public opinion in a position to weigh the subject with unbiased minds."<sup>8</sup>

No automobile manufacturer exploited the press more consciously or to better advantage than Alexander Winton, whose high regard for the power of the printed word can be traced to his 1897 drive from Cleveland to New York. The trip resulted in so much favorable publicity that he decided to repeat it in 1899 with Charles B. Shanks, a newspaper reporter. The articles written by Shanks to publicize the journey attracted much attention and drew interested crowds all along their route. James R. Doolittle, writing the first comprehensive history of the industry in 1916, called Shanks's articles "the first real effort at intelligent publicity with which the new industry had been favored." He estimated that "when Winton reached New York a million people saw his car and part of the credit for that crowd must be given to Shanks." The fact that Winton's 1899 Cleveland–New York run had taken less than forty-eight hours' driving time, combined with Shanks's effective publicity, appears to have stimulated popular demand for automobiles. Other manufacturers gave Winton credit for a general increase in sales. Winton's own records show that before the trip his "sales were made almost exclusively to engineers who desired to buy and experiment with an automobile that would really run, but after the trip, the sales were made to the public at large."<sup>9</sup>

Winton's practical demonstration of the motorcar was emulated many times during the next few years. Automobiles became drawing cards at county fairs around the turn of the century; and the annual automobile show, after its inauguration in five American cities in 1900, became a popular institution. But it was the long-distance reliability run that most excited the average person's imagination about the romance of motoring. In contrast, track and road races, which placed primary emphasis upon speed, were more important

for their contributions to automotive technology as tests for weaknesses in design than as publicity for the motorcar. Track races were viewed by the public as little more than exciting spectacles, involving as they did specialized monstrosities designed for maximum speed rather than practical road vehicles. Road races were considered to be dangerous exhibitions, unwarranted because their relation to the development of a reliable family car seemed remote. The man in the street was more impressed by the imminent personal automobility promised by the long-distance reliability run.

In the fall of 1901 Ransom E. Olds decided to have Roy D. Chapin, then a tester at the Olds factory, drive a new curved-dash Oldsmobile (1901-1906) from Detroit to the New York automobile show. The curved-dash Olds was the zenith of surrey-influenced automotive design. It sold for a moderate \$650, making ownership of a fairly reliable car for its time possible for middle-class Americans. The Olds Motor Works was by 1901 committed to the volume production of the curved-dash, having been the first company to mass-produce gasoline automobiles by manufacturing some 425 cars that year. A New York City to Buffalo endurance run sponsored by the newly formed Automobile Club of America (ACA) in 1901 indicated the possibility of long-distance touring by private owners, and Olds hoped to capture the market in the heavily populated eastern cities by providing convincing evidence that his moderately priced light car was as reliable for touring as more expensive heavy vehicles. Chapin left Detroit on October 27. Despite the handicap of extremely muddy roads, he arrived in New York City on November 5, with an average speed of 14 mph for the 820-mile distance. Olds sold a record 750 cars in New York City alone the following year.

Chapin's feat was a prelude to three successful crossings of the American continent by automobile in 1903. The first was made by Dr. H. Nelson Jackson, a physician from Burlington, Vermont, and his chauffeur, Sewall K. Crocker. They traveled from San Francisco to New York City in a new Winton in sixty-three days. Transconti-

ental tours by a Packard and a curved-dash Olds under the auspices of their manufacturers followed. For Ransom E. Olds this important achievement helped him to lead the industry with nationwide sales of 4,000 in 1903. More important, the reliability of the moderately priced light car was now established in the mind of the public. An estimated several thousand Americans were encouraged to take cross-country automobile vacations in 1904, marking the inauguration of long-distance automobile touring by the average automobilist.

Charles J. Glidden, a millionaire automobile enthusiast who wished to encourage touring by private owners, sponsored the famous Glidden reliability tours. They were run between 1905 and 1913 for handsome trophies. To keep the events from becoming simply publicity stunts for automobile manufacturers, Glidden stipulated that each car entered must be driven by its owner. But since any executive of the automobile industry could comply with the rule by driving one of his firm's most recent models himself, most contestants were representatives of the automobile industry. The first Glidden tour was held from July 11 to July 22, 1905, over an 870-mile route from New York City through New England and return. Twenty-seven of the thirty-four entries finished, the first being a heavy Pierce touring car carrying five passengers. A participant summed up the results: "The tour has proved that the automobile is now almost foolproof. It has proved that American cars are durable and efficient. It has shown the few who took part how delightful their short vacation may be, and it has strengthened our belief in the permanence of the motorcar."<sup>10</sup>

That tour obviated the need to prove further that the motorcar was reliable for long-distance transportation. The point was unequivocally underlined for the public by the performance of the automobile during the 1906 San Francisco earthquake. Walter C. White organized a caravan of motortrucks to bring supplies to the disaster area, and some 200 privately owned local automobiles were

immediately impressed for emergency service by the authorities. The gasoline automobiles used an estimated 15,000 gallons of fuel donated by the Standard Oil Company. After tires exploded from the heat of the pavement, cars were run for days on their wheel rims at as fast a speed as possible over obstacle-laden streets. Passenger cars were called upon to tow several moving vans after the horses pulling them had expired from the heat and strain. Mechanical failures under these extremely severe conditions turned out to be surprisingly infrequent. Little need remained to demonstrate the reliability of the motor vehicle. By 1907, gasoline economy runs had replaced reliability runs as the focus of public interest.

Motor vehicle sales increased substantially in 1907 despite the general business recession and an apparent saturation of the upper-class market. No one doubted that a broad middle-class market for cars was becoming a reality. The number of starting cars in the annual Glidden tours dwindled from forty-nine in 1907 to thirteen in 1909. One of the 1909 Glidden officials explained that the decline occurred because automobile manufacturers "were enjoying too much prosperity. They said, 'Why should we enter this contest when we are unable to supply the demand now? The advertising will do us no good.'" <sup>11</sup> *Automobile* observed: "The riding and driving clubs all over the country are losing membership, and even closing their clubhouse doors, and livery stables are losing money or being transformed into garages. The remaining stronghold of the horse is guarded solely by low prices." <sup>12</sup>

After 1905, recognizing that the early upper-class market was nearing saturation and aware of a great demand for outmoded buggy-type cars and secondhand conventional automobiles, the more enterprising manufacturers turned to the developing middle-class market. The most successful was Henry Ford, who led the industry in developing the reliable, moderately priced, four-cylinder, conventional runabout with his \$600 Model N (1906-1907). Its successor, Ford's legendary Model T (1908-1927), became the

universal car that had been anticipated by many Americans since the turn of the century. John B. Rae has aptly stated: "By the end of the first decade of the twentieth century the automobile could no longer be regarded either as a novelty or as a rich man's plaything; it was already potentially what it would become in fact—an item of incredible mass consumption." <sup>13</sup>

While the automobile remained an adjunct of social status in Europe, automobility quickly became a mass movement in the United States. The only people deeply prejudiced against the automobile were horse breeders and livery stable owners, whose vested economic interests were threatened by the motorcar. Carriage manufacturers and blacksmiths, on the other hand, accommodated to the motorcar because they were able to profit from the ensuing new demands for their products and services. Even antispeed organizations maintained that they were proautomobile and only against its abuse. The legal counsel for the Long Island Protective Society, one of the most virulent antispeed organizations, said typically upon its incorporation in September 1902: "Our purpose is to enforce the speed law against the reckless drivers of automobiles and also those of fast horses. . . . It is not a society antagonistic to automobiles. We recognize that the automobile is the twentieth-century vehicle, and that it is with us to stay. Many of our members own and operate automobiles, but we are for a free highway and a safe highway and intend to harmonize the interests of the automobilists, the horse drivers, and the pedestrians." <sup>14</sup>

Early attempts to regulate the motor vehicle pitted the auto enthusiast against the general public, who, appalled by speeding and reports of accidents in the daily press, demanded that government take action. But the legislation passed was overly lenient and not motivated by prejudice against the motorcar. After the turn of the century it became increasingly obvious even to auto enthusiasts that special motor vehicle legislation was needed to supplement the few

laws regulating horse-drawn traffic. Motorcars had much higher average and top speeds than horse-drawn vehicles, and melding motor vehicles into the normal flow of horse-drawn traffic was a problem.

Local automobile ordinances were soon superseded by state laws. These local and state laws usually reflected the thinking of the automobile clubs, who lobbied energetically to forestall prejudicial legislation. The American Automobile Association (AAA) and the National Association of Automobile Manufacturers (NAAM) went so far as to campaign for a national motor vehicle law. Beginning in 1905 in the Fifty-ninth Congress, they introduced several federal automobile bills, which died in committee because legislators doubted that federal regulation of the motorcar was either necessary or constitutional.

In 1901 New York was the first state to require registration; by 1910 motor vehicle registration was compulsory in thirty-six states. Motorists at first resented registration, which had as its main purpose the identification of speeders and reckless drivers. However, because the general practice in most states was to use funds from registration fees for road improvement, motorists after 1905 came to favor higher and annual registration fees as one means of securing better roads.

About 1905, motorists also began to agitate for the licensing of all motor vehicle operators. They felt that safety demanded that the operators be not only licensed but also required to pass an examination to determine their competence. The certification of operators was common in Europe, but state governments here were reluctant to assume the responsibility. As late as 1909, only twelve states and the District of Columbia required all automobile drivers to obtain licenses, and in seven other states only professional chauffeurs had to obtain licenses. The application forms for an operator's license in these nineteen states as a rule asked for little more information than the applicant's name, address, age, and the type of car he claimed to be competent to drive. The form might

have to be notarized, but in the vast majority of these states a license to drive an automobile could still be obtained by mail.

As of 1902, only four states had passed any special regulations governing use of the automobile. The lowest speed limit on the open highway in any of these states was 15 mph, and the municipal ordinances then in effect almost never restricted the motorcar to lower speeds than the top speeds of horse-drawn vehicles—that is, 6 to 8 mph in business sections and 10 to 12 mph in other parts of cities. By 1906 most states had adopted motor vehicle legislation that provided for maximum speed limits of 20 to 25 mph on the open highway. The narrow, winding, dirt roads of the day, combined with the predominance of horse-drawn traffic on them, meant that these speed limits represented the very limit of safety. The 1905–1906 period marked the high point of restrictive speed laws. Before this few speed laws had been enacted; later, with the rapid diffusion of the motorcar, speed laws became progressively more lenient.

The sentiment against speeding and reckless driving was especially strong in rural areas, where the ire of farmers was aroused with the advent of informal automobile touring. Their hostility was misconstrued by many early auto enthusiasts to be directed against the automobile itself rather than the automobilist. Inconsiderate automobile tourists constituted a danger both to stock and to horse-drawn traffic, and automobiles raised clouds of dust that damaged crops and settled on farmhouses and barns. In addition, most automobile manufacturers made no attempt to design cars suited to the farmers' needs until forced to do so by the saturation of the urban luxury market after 1905. Although feelings against the city automobilist were extreme in some localities, the important point is that antiautomobile sentiment among farmers remained localized, was directed against speeding and reckless driving, and was pretty much confined to the years 1904 through 1906. William Jennings Bryan, the leading national spokesman for rural America, used motor vehicles in the campaigns of 1896 and 1900. By 1904,

politicians were finding the motorcar useful for stumping tours of rural districts, where its novelty was considered "an effective aid to the oratorical talents of the spellbinder in drawing a crowd."<sup>15</sup> At the high point of the farmers' reaction to the motorcar, in November 1905 at the thirty-ninth annual session of the National Grange, Patrons of Husbandry, a resolution was passed by the delegates that the automobile was "an innovation in modes of travel which must be accepted."<sup>16</sup>

The increasing prosperity of farmers, combined with the appearance of rugged, moderately priced cars such as the Ford Model N and Model T, led to the rapid development of a rural market for automobiles after 1906. Industry spokesmen such as Alfred E. Reeves of the American Motor Car Manufacturers' Association (AMCMA) were impressed by 1909 that "manufacturers are relying on two great new purchasing factors—the farmer and the man with the middle-class income."<sup>17</sup>

The middle-class base of the American market for automobiles was evident well before Henry Ford came out with his Model T. The expense of automobile ownership meant, of course, that cars were initially bought by persons with much higher than average incomes. Ralph C. Epstein gathered data showing that the first purchasers of several makes of cars were mainly moneyed businessmen, ranging from self-designated "capitalists" to dry-goods merchants, but physicians and engineers were also well represented. Merchants and physicians predominated among the early purchasers of the curved-dash Oldsmobile.<sup>18</sup> The local doctors were invariably among the first persons to purchase cars in any community, and physicians emerged as the most innovative group in the United States in adopting the automobile. Thus from its inception the automobile movement in the United States was neither exclusively nor primarily the "fad of the idle rich" that horse breeders and livery stable owners tried to label it.

What is striking in retrospect is how rapidly automobile ownership

became general in the United States, not its initial, false association with the exceptionally affluent. As early as 1903 George A. Banker, one of the largest eastern automobile dealers, reported: "Of course the wealthy classes are still our chief customers. . . . But they are no longer the exclusive buyers, even of moderately expensive cars, as was the case a year ago. The bank clerk and similar young men with plenty of time and earning good salaries are now found among our customers."<sup>19</sup> Data presented in the Lynds' classic study of Muncie, Indiana, illustrate how rapidly automobile ownership became more widespread than the ownership of horses and buggies: "A local carriage manufacturer of the early days estimates that about 125 families owned a horse and buggy in 1890, practically all of them business folk. . . . The first real automobile appeared in Middletown in 1900. About 1906 it was estimated that 'there are probably 200 in the city and county.'<sup>20</sup> By 1907, conservative bankers were beginning to worry that too many people were mortgaging their homes to finance automobile purchases.

Automobility remained a mass movement mainly in sentiment until after 1910 only because cars were expensive. Until well after 1910 the initial price of an automobile involved a staggering expenditure for the family of average means. And there is good evidence that prices were not lowered as rapidly as possible. The average selling price of cars produced by the Association of Licensed Automobile Manufacturers (ALAM) went from \$1,170 in 1903 to an exorbitant \$1,784 in 1905. As long as the early luxury market lasted, most automobile manufacturers, who were able to sell all the high-priced cars they could produce, spurned the idea of making lower-priced cars at lower unit profits. *Outlook* explained as late as 1907, for example: "One firm . . . whose first reputation was made on a low-priced car of unusual excellence, now makes that style only on order and does not exhibit or generally advertise it. It is now turning out higher-priced cars, of which, as a representative said, 'we can sell all that we make.'<sup>21</sup> Installment sales were not looked

upon favorably by the automobile industry until the market for new cars began to approach saturation in the early 1920s. Industry opinion about time sales before 1910 was summed up well by *Motor World* at the end of 1904: "There is no excess of cars, and customers are to be found for all of reputable make that are produced. To deviate from the cash system now in universal use is to invite disaster without any corresponding gain in the unlikely event of success. No sane businessman will bring himself to do this."<sup>22</sup>

Early upper-class owners were equally shortsighted about the implications of the developing mass market. Taking the aristocratic national automobile clubs of France and Great Britain as a model, a self-appointed New York City automobile elite founded the Automobile Club of America (ACA) on June 7, 1899, with a view toward being the national voice and conscience of American motorists. The ACA was quickly recognized as "an ultra-fashionable coterie of millionaires who have taken up the new and expensive fad of auto-locomotion and banded themselves together for its pursuit and the incidental notoriety attributed to all the functions of upper swelldom."<sup>23</sup> Competing automobile clubs, also drawing their membership almost exclusively from the affluent and socially prominent, were soon founded in other large cities. Elegant clubhouses that included elaborate garage facilities were built; memberships were restricted to a few hundred individuals; and social functions were almost as important as agitation for improved roads and reasonable motor vehicle laws, sponsoring tours and automobile shows, and providing essential services for the motorist.

The hegemony of the early aristocratic big-city clubs in the automobile movement was undercut as local clubs mushroomed in medium-sized cities and small towns and as middle-class motorists in large cities formed competing associations that combined limited services with open membership policies. Automobile clubs outside the large cities attracted members from all walks of life and needed "some different sort of local association, better suited to the semirural

environment and less expensive to a small [and less affluent] membership."<sup>24</sup> As the public garage became an established institution and as motoring came to be considered utilitarian rather than a "sport," in large cities as well the future belonged to clubs such as the Chicago Motor Club. It was organized in August 1906 with no clubhouse, no social features, and the goal of attracting as many members as possible at nominal fees.

The American Automobile Association (AAA) was formed in March 1902 as a loose federation of local clubs under the auspices of the elite big-city clubs, who expected to dominate it. But the AAA quickly came to reflect the interests of the middle-class motorist as memberships skyrocketed in the more democratic local clubs with their more limited goals. Piqued by its loss of control over the affairs of the AAA, the Automobile Club of America withdrew from the AAA on March 12, 1908. William H. Hotchkiss, the president of the AAA, responded: "I do not regret the resignation, but welcome it. It is high time that motorists understand whether a mere name adopted in the infancy of the motor vehicle in this country, and which has since become a misnomer, entitles any local club in any city, no matter how great, to lord it over hundreds of other clubs in other parts of the country. . . . whether the American Automobile Association represents those motorists or whether they are to be represented by a small clique of gentlemen who manage a local social club. I, therefore, hail the issue and have no doubt of the results."<sup>25</sup>

Thus the ACA failed in its attempt to transplant the European pattern of highly centralized control over a national automobile movement by an elite group of automobilists. To exercise effective national influence in the United States, any automobile association had to reckon with the predominant democratic ethos of American culture, the widespread ownership of automobiles, and the decentralized governmental powers of our federal political system. As *Motor World* had prophesied in 1901, "Aristocracy never has survived



a transplanting to American soil, and this automobile club idea will not be an exception to the rule of failure. No club, no matter how rich or exclusive its membership may be, can arrogate to itself the right to pose in any way as supreme ruler of the present or future of the motor vehicle."<sup>26</sup>

There are many reasons why, in contrast with Europe, an automobile culture developed so rapidly in the United States. To begin with, the volume production of standardized commodities became well established early in our industrial history. Our abundance of natural resources, combined with a chronic shortage of labor, resulted in low costs for raw materials and the mechanization of industrial processes, which necessitated the standardization of products. In addition, the absence of tariff barriers between the states encouraged sales over a wide geographic area. Most important were our higher per capita income and more equal income distribution relative to those in European countries.<sup>27</sup> It is significant, for example, that Morris Motors, the most important British automobile manufacturer, did not install a moving assembly line until 1934—two decades after it had been innovated at Ford. The income distribution in Great Britain fixed the demand for cars there at too low a level to justify the investment.<sup>28</sup> Because of these differences between Europe and the United States, the European pattern of small-scale, individualized production of motor vehicles stood no chance of becoming characteristic of the American automobile industry.

The lack of early governmental subsidization of the motorcar in the United States turned out to be a blessing in disguise. Our War Department showed little interest in the motorcar until about 1909. The automobile trade journals complained as late as 1909 that "the Washington government has not given to the motorcar that support which a new method of transportation deserves, or has that government given even a semblance of support compared with the

financial and legislative aid that have been rendered by many of the governments of Europe to their motoring interests."<sup>29</sup> The governments of France, Germany, and England had realized the military potential of the motor vehicle by the mid-1890s. They conducted extensive military experiments with motor vehicles and offered substantial subsidies to encourage the development of motor vehicles suitable for military purposes. The early governmental subsidization in Europe delayed the manufacture of light cars for the family driver by emphasizing the development of heavy touring cars and trucks that were better suited for officers' staff cars, weapons carriers, and transporting troops and supplies.

Lacking our decentralized federal political system and tradition of minimal government, European countries early adopted national legislation regulating the construction and operation of motor vehicles. In contrast, the American policy of *laissez faire* and *caveat emptor* meant that many American cars did not meet even the extremely low minimal safety requirements of the period. The national automobile laws common in Europe had the advantage of imposing uniform, reasonable standards upon all of a nation's motorists and ensured the basic competence of everyone who drove an automobile on the public roads. European practice was clearly superior from the standpoint of automotive safety. But the minimally restrictive attitude of government in the United States ensured that the American consumer could purchase cars that were cheap, if unsafe, by European standards and encouraged the average person to believe that everyone was competent to drive.

Perhaps it was inevitable that our democratic production and consumption ethics would be applied to motorcars, given only that the automobile from its introduction seemed, on utilitarian grounds, to be superior to other forms of transportation. The motorcar combined the flexibility of the horse with the speed of the locomotive or electric trolley, without the costly liability of a system of fixed rails and overhead wires. The general adoption of the automobile

promised to relieve taxpayers of the high cost of removing tons of excreta daily from city streets and to eliminate huge expenditures for endless miles of railroad track, overhead wires, and networks of tunnels, and with this the graft and corruption that too often seemed to be associated with building urban mass-transit systems.

In New York City alone at the turn of the century, horses deposited an estimated 2.5 million pounds of manure and 60,000 gallons of urine on the streets every day. Traffic was often clogged by the carcasses of overworked dray horses who dropped in their tracks during summer heat waves or were destroyed after stumbling on slippery pavements and breaking their legs. On the average, New York City removed about 15,000 dead horses from its streets each year. A 1908 estimate that tried to take all factors into account concluded that the cost of not banning the horse from New York City was approximately \$100 million a year. Urban sanitation departments were not only expensive but typically inefficient and graft- and corruption-ridden. As prize political plums for the ward bosses, sanitation departments were staffed by "old and indigent men," "prisoners who don't like to work," and "persons on relief." Arguing for the displacement of the horse by the electric trolley, United States Commissioner of Labor Carroll D. Wright pointed out in 1892 that, in addition to the expense of horses, "the vitiation of the air by the presence of so many animals is alone a sufficient reason for their removal, while the clogged condition of the streets impedes business, and involves the safety of life and limb."<sup>30</sup>

After its introduction in the late 1880s, the electric trolley rapidly displaced horses on streetcar lines. It was sanitary, not subject to organic malfunctions, and faster than the horse. But an urban transportation system based on the electric trolley involved huge expenditures for rails, overhead wires, and tunnels or elevated platforms. Freight still had to be moved by horse-drawn trucks, and passengers had to get from the trolley stop to their ultimate destinations by horse, bicycle, or foot. The electric trolley was less

flexible than the horse, and if a single trolley got stalled on the tracks, the normal flow of traffic was halted. The expense of an urban rail transportation system meant that it was practical only in areas of high-density population, thus stifling suburban development because it was not feasible to extend facilities out to the sparsely settled outskirts of the city. As construction costs mounted during the 1890s, it began to become apparent even in large cities that building adequate mass-transit rail systems was an insurmountable task.

The motor vehicle offered an attractive alternative. It was facilely assumed that the cost of improving city streets for antiseptic automobile traffic would be negligible. Further, it was anticipated that urban traffic congestion and parking problems would disappear because automobiles were more flexible than streetcars running on fixed rails, and they took up only half the space of horse-drawn vehicles. According to an 1896 article in *Scientific American*, for example, "the existence of a double line of cars moving on a fixed track and claiming the right of way over other vehicles is a hindrance to traffic and is itself delayed." If these rails were removed, the street asphalted from curb to curb, and the streetcars replaced by motor vehicles that could pass one another at will, "the whole volume of traffic would move with less interruption than at present, and . . . the cars themselves would make faster time."<sup>31</sup> The idea of asphalt pavement, too slippery for horses, was obviously predicated on a horseless city, with streets free from accumulated excreta and the carcasses of dead animals. From the perspective of American values there was the bonus that dependence upon private passenger cars for mass transit promised to place the burden of the costs of an urban transportation system squarely on the shoulders of the individual.

The motorcar was considered cleaner, safer, more reliable, and more economical than the horse. The car promised to be vastly improved and lowered in price in the near future, while the expense and liabilities of the horse seemed insurmountable. As *Harper's Weekly*

said in 1899, "a good many folks to whom every horse is a wild beast feel much safer on a machine than behind a quadruped, who has a mind of his own, and emotions which may not always be forestalled or controlled."<sup>32</sup> Lacking the physical strength needed to control a spirited, skittish team, women in particular were impressed with the advantages of the motorcar, especially with the noiseless, odorless electric car that did not involve the problem of learning to shift gears. Even the crude brakes on early motorcars were vastly superior to those on horse-drawn vehicles, and it was widely believed that an automobile going twenty miles an hour could be stopped in less space than a horse-drawn rig being driven at a moderate trot. The motor vehicle was also much more maneuverable than the horse-drawn vehicle, requiring considerably less space for turning around because of its shorter length. In addition, it was impervious to weather conditions and to fatigue. Countless tests demonstrated to the public that the motor vehicle was cheaper than the horse. It depreciated less rapidly and did about three times the work for the same amount in operating expenses. Medical doctors, who drove their horses hard on calls, invariably reported that the motorcar was more economical as well as more reliable. The average automobile owner, however, did not use his car enough to realize these economies. Nonetheless, everyone agreed: "So far as we can at present see, the displacement of the horse will cheapen living and travel, certainly not increase them."<sup>33</sup>

From its introduction, the automobile was thus compared quite favorably with the horse-drawn rig. But the motorcar was always judged on tougher criteria. People anticipated that the automobile, unlike the horse, would be substantially improved and available at a much lower price in the near future. *Motor Age* explained in 1903: "In one way the automobile is its own enemy. It has accomplished so much and has become able to do so much, that the public has reached a point of unlimited expectation. For instance take the man who asks for automobiles at about \$400 or less. What does he want

for the price of a good horse and buggy outfit? A car equal in capabilities to the horse and buggy? Not by any means. He wants a car which will go from four to six times as fast, and travel twice or three times as far at the same expense. . . . [The public] puts the automobile in a class by itself out of comparison with other means of travel—and then kicks because the first cost is greater than that of a side bar runabout and a spavined gray mare."<sup>34</sup>

The long-range liabilities of the mass adoption of the automobile were not foreseen at the time. No one envisioned that the mass ownership of motorcars would ultimately entail a total per capita expenditure for cars, fuel, repairs, road building and maintenance, insurance, and loss of life and income through accidents considerably in excess of the cost of any conceivable mass-transit trolley and railroad system. Nor was it evident that the best case for the relative efficiency and economy of the motor vehicle from the perspective of either the transportation system as a whole or the individual could be made for the limited use of motor-driven trucks and buses along with rail transportation, not the widespread adoption of private passenger cars. That automobile exhaust would become a more dangerous and expensive pollutant than horse excreta was not foreseen. It was also overlooked that the average family did not use a horse and buggy enough, or spend enough on trolley and railroad fares, to realize a saving from switching to the automobile, the relative economy of which became apparent only when a substantial amount of driving was done.

Even had the experts recognized some of the long-range liabilities of the mass use of private passenger cars, the automobile was developed as a consumer-goods item and was diffused in response to the demands of a capitalist market economy. Americans have historically had unbounded faith in technological progress. They have accepted as an essential aspect of American democracy that the marketplace and the profit motive should determine the fate of technological innovations defined as consumer-goods items. And

they have assumed that any adverse unanticipated consequences would be corrected in time either by the market or by other technological innovations. In the early 1900s both the experts and the public concluded that the automobile promised to raise significantly the quality of life and to restructure American society through technology along lines dictated by traditional cultural values. These considerations were undoubtedly as important as the utilitarian ones in the rapid development of our automobile culture.

Individualism—defined in terms of privatism, freedom of choice, and the opportunity to extend one's control over his physical and social environment—was one of the important American core values that automobility promised to preserve and enhance in a changing urban-industrial society. Mobility was another. The automobile tremendously increased the individual's geographic mobility, which was closely associated with social mobility in the United States. It was certain to be prized by Americans. In our traditionally mobile society the motorcar was an ideal status symbol.<sup>35</sup>

In a culture that has invariably preferred technological to political solutions to its problems, automobility appeared to the expert and to the man in the street as a panacea for many of the social ills of the day. Most people believed that the general adoption of the automobile would significantly raise the quality of life in cities. Better public health conditions were the main benefits anticipated. Medical authorities pointed out that tetanus was introduced into cities in horse fodder and that dysentery and diarrhea, serious health problems among city children at the time, were caused by "street dust," which in the main consisted of germ-laden dried horse dung. The excreta that littered city streets irritated nasal passages and lungs in the form of "street dust" during dry weather, making it unpleasant to open windows for ventilation, then became a syrupy mass to wade through and track into the home whenever it rained. Insurance actuaries established that infectious diseases, including typhoid fever, were much more frequently contracted by livery

stable keepers and their employees than by other population groups. It was well known that the flies that bred on the ever-present manure heaps carried over thirty communicable diseases, and public health officials were convinced by the turn of the century that the first step in eradicating the housefly was to eliminate the horse from cities. The unsightliness and stench of the stable meant that most urban owners of horses "boarded and baited" them at public facilities an inconvenient distance from their residences. The stress and strain associated with urban living were also widely attributed to the iron wheels of countless horse-drawn vehicles clattering on the cobblestone pavement that horses required for a foothold. As pointed out in *Scientific American* in 1899, "The improvement in city conditions by the general adoption of the motorcar can hardly be overestimated. Streets clean, dustless and odorless, with light rubber tired vehicles moving swiftly and noiselessly over their smooth expanse, would eliminate a greater part of the nervousness, distraction, and strain of modern metropolitan life."<sup>36</sup>

To a population that had deeply internalized what Richard Hofstadter called the "agrarian myth,"<sup>37</sup> however, the chief value of automobility was that it permitted escape from the supposedly debilitating environment of the city without cutting oneself off from the advantages only the metropolis offered. Henry Ford once phrased nicely the motorist's paradigm for urban reform: "We shall solve the city problem by leaving the city."<sup>38</sup> The ultimate answer to the tenement house slum was that everyone should buy a motorcar and commute to suburbia, and a projected suburban real estate boom soon became another anticipated benefit of automobility. The utopian effects of a mass movement to suburbia seemed obvious: "Imagine a healthier race of workingmen, toiling in cheerful and sanitary factories, with mechanical skill and trade-craft developed to the highest, as the machinery grows more delicate and perfect, who, in the late afternoon, glide away in their own comfortable vehicles to their little farms or houses in the country or by the sea twenty or

thirty miles distant! They will be healthier, happier, more intelligent and self-respecting citizens because of the chance to live among the meadows and flowers of the country instead of in crowded city streets.”<sup>39</sup>

Automobility also seemed an ideal solution to the farm problem. A predominant fear during the 1900–1910 decade was that the siphoning off of the rural population into cities would soon deplete the number of farmers to the point that a critical food shortage would result. Rising prices for farm products disturbed city consumers, who were confronted with higher prices for food, yet the financial rewards of farming were still not sufficient to keep talented and ambitious rural youth tied to a life of isolated drudgery. The general adoption of the automobile by farmers promised to break down the isolation of rural life, lighten farm labor, and reduce significantly the cost of transporting farm products to market, thus raising the farmers’ profits while lowering the food prices paid by city consumers. *Outing Magazine* predicted in 1902, for example, that with the adoption of the automobile “the millions of our rural population will be brought into closer relations with the towns and with neighbors, and the loneliness of farm life, which drives so many to the cities, with detriment to all, will no longer retard our agricultural growth, nor prevent a proper distribution of population for the national welfare.”<sup>40</sup> By 1907 it seemed obvious that the automobile would “remove the last serious obstacle to the farmer’s success. It will market his surplus product, restore the value of his lands, and greatly extend the scope and pleasure of all phases of country life.”<sup>41</sup>

Viewed as a solution to these major social problems, the general adoption of the automobile was the most important reform of the pre-World War I era, an especially attractive reform to Americans because it did not involve collective political action. It is no wonder that automobility, for two generations after Henry Ford initiated the volume production of the Model T at his Highland Park plant in

1910, became the most important force for change in American civilization. In retrospect, we can see that many of the changes wrought by automobility were antithetical to the expectations of our forebears and that many consequences of the automobile revolution have proved either illusory or deleterious. But we need to recognize also that the American automobile movement was democratic in its inception and that our automobile culture was a vast improvement over the horse and rail culture that it superseded. For these considerations mean that automobility was until recently a progressive force as well as the predominant one in American historical development.