History 110

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Invention Impact Paper

Automobile and Metro Detroit

The Significance of Automobiles

The recent history of Detroit is closely intertwined with the development of automobiles. Detroit's rise to prosperity in the 1920s was due to the rapid development of the auto industry, and the eventual decline was also due to the mass exodus of the auto industry. To this day, the legacies of Henry Ford, General Motors, and the past and present glories of automobile giants still linger around the proud city, an important part of the cultural, industrial, and economic system. In this essay, I will examine the effects of industrialised automobile production on the Metro Detroit area.

Culturally, the Henry Ford Health System, the largest hospital in Wayne County, the Renaissance Center with the seven General Motors skyscrapers, Ford Field, the Woodward Dream Cruise that features everything a car enthusiast could ever dream of, the Bad Boys of Detroit Pistons and their 2004 NBA championship…Detroit oozes automobile culture.

Industrially, the Metro Detroit area is still a hub for automobile development and production. The Hamtramck Assembly on the intersection of I-75 and I-95 near Midtown Detroit is still pumping out Cadillac Escalades and Chevrolet Silverados to this very day. The Hamtramck Assembly was originally designed to ship parts and subassemblies to the nearby Highland Park Ford Plant on rails. I used to live right down the road from Highland Park Ford Plant, the first and original assembly line, right on Woodward Ave, which is now a shopping mall with an ALDI. There are also Ford plants in Flat Rock and Wayne,

pumping out F-150s and Mustangs, two of the most quintessentially American cars to this day. Further out in the suburbs of Oakland County, there's the city of Auburn Hills, where Dodge's design hub lies. On every Dodge Challenger's chassis, "Designed In Auburn Hills" was engraved.

The Early Days Of Automobile Production in Detroit

Cars were made in Detroit. It all first started out with the Quadricycle, a four horsepower, two-cylinder seat on wheels, which Henry Ford himself built in his coal shed in what is now the Michigan Building in Downtown Detroit. Michigan Building was an opera house built during the height of Detroit's prosperity, but its inside has been turned into a parking lot during the 2000s, meanwhile still retaining its lavish roof. The building and parking lot have been defunct due to health concerns about the hundred-year-old peeling plasters in the air. In 1908, the historically significant Model T was introduced. Ford first introduced the Model T, then he invented the assembly line at the famous Highland Park Plant. The Model T was first produced in the small Mack Ave Factory in Downtown Detroit of merely 3000 sqft. The factory was only able to pump out three to four cars a day. The process was simple, three or two men would work on one car, assembling from parts ordered from other companies, a preview of what the assembly line would be. Later, Ford built the Highland Park Plant, increasing production tens of thousands of times, outputting as high as 170,211 Model Ts in 1912 and half a million by 1915. In the early 1900s, cars were only toys for the rich and powerful, as one automobile, would cause around 1500-2000 dollars, (Colt Runabout), which would be around 90,000 dollars today. By 1910, due to the increase in production capability, Model Ts' prices were lowered to 850$.

Other Than Ford, Dodge also played a key role in the automobile development in Detroit. The Dodge Brothers, in their early years, were making engine and chassis components for Ford and Olds Motor Companies. Their first machine shop is located right on Lafayette, where the Hollywood Casino in Greek Town now resides. Then, they built the Hamtramck Assembly, which led to the prospering of the city of Hamtramck, and the assembly is still active to this day, even though General Motors purchased it in 1981.

Assembly Line, Labour and Fordism

The invention of the assembly line actually came from the idea of a disassembly line. The head of the engineering department of the then three-year-old Ford Motors, William Klann, got the idea from visiting a slaughterhouse in Chicago. The slaughterhouse had a “disassembly line” going on, where carcasses were moved on a conveyor belt, and each worker would carve up the same piece of meat every time, disassembling the carcass. Klann’s discovery, soon relayed to Henry Ford, was documented in the Henry Ford Museum.

The Highland Park Plant was opened in 1908 and was only producing around 10,000 Model Ts per year at the time. The plant was by far the biggest factory plant among its contemporaries, occupying 102 acres, so it is sensible that it would be the perfect place to implement the assembly line.

On October 7th, 1913, the first moving assembly line was opened at Highland Park, with conveyor belts and working stations, drastically reducing the production time of one Model T car down to 93 minutes. This is wildly impressive, as the current assembly time for a typical vehicle would be around 4-6 hours in the current day. Obviously, the modern cars produced are much more complicated, filled with hydraulics and electronics, but considering the lack of automation and advanced machinery, 93 minutes for a driving

vehicle is a remarkable feat. It was so fast and efficient, that paint not drying quickly enough was a problem, so Ford had to drop a variety of colours. The assembly line increased production by eightfold.

The immense success of the assembly line has brought Ford and the city of Detroit incredible prosperity. The faster production meant more volume, giving Ford the ability to lower its prices, from 825$ in 1908 to 575$ in 1912. This enabled Ford to sell 202,667 units of Model T the first year the assembly line was installed, and exceeding one million units in 1920, a short seven years after.

Arguably, Ford's greatest contribution to America was the assembly line, however, his labor practices were his greatest contribution to the city of Detroit. The Idea of Fordism is best summarised as using unskilled labor to assemble a standardised product, then paying the workers enough that they would have the monetary means to purchase the products. In 1914, due to the increased production requirement, there was high turnover rate for the workers. To ensure production and worker motivation, Ford doubled the wage, from 2.5 dollars per day to 5 dollars per day, meaning that a worker could afford a Model T in just 4 months' time.

The massive factories built around downtown Detroit meant a massive increase of workers, and thus immigration, especially from Poland. Up until the 1970s, 90% of residents of Hamtramck were Polish immigrants. The living wage that Ford was willing to pay the workers led to the construction of the entire Metro Detroit neighbourhood, as workers began to buy land, buy houses to settle down, and raise their families in the close proximity of the dozens of factories and machine shops in Detroit. In the 1900s, the budding Detroit only housed 285,000 people, by 1920, it housed 990,000, and by 1930, 1,568,000 Americans. The prosperity of Detroit is largely due to the labor innovations by

Henry Ford, and the incredible volumes of production and industrial activity assembly lines brought to the city.

The Rust Belt and The Decline of Detroit

Detroit's fall began with the introduction of worker's unions and the improved railroad and transportation system around America. In the early 20th century transportation for engines and chassis was much more costly as the only method was railroad and in some rare cases, on water, so for assembly plants to function at maximum efficiency, the machine shops and parts manufacturing must be in close proximity.

However, as America treads into the mid-20th century, roads and diesel trucks are much more commonplace, thus manufacturers can afford to decentralize. Since the industrial revolution, workers Union existed, and large corporations, like Ford, Chrysler and GM, the trinity of Detroit automobiles, have to pay more wages to the Union workers so that they will not go on strike. However, ever since the 1950s, GM, Chrysler, and Ford started to decentralise from Detroit proper, moving their factories to Non-Union areas for a lower cost. The decentralised production gave the corporations more power, as they were more resistant to striking.

For example, the River Rouge Plant, situated right in the middle of Belle Isle and Greektown, is Ford's flagship production plant, it still pumps out Ford F series trucks to this day. It had a peak workforce of 90,000 people in 1930(which is about 2-3 percent of Michigan's population, working in one factory), but due to GM, Ford and Chrysler's efforts to decentralise, it only employed 30,000 workers in the 1950s, and 6000 in 1990.

Due to the mass exodus of the automotive industry for greener pastures, workers and their families were left behind, unemployed. For decades Detroit's governing body failed to realise the solution to the dying city was not trying to bring the automobile

industry back, but to invest in and explore other diverse industries. Pittsburgh is a great example of diversification leading to transformation and relative prosperity. Pittsburgh, like Detroit, was situated on the Rust Belt of America, having one of the biggest steel productions in its heyday. Pittsburg has long since diversified, investing in health and finance industries, and housing gigantic corporations like UPMC, Highmark, and PNC Bank, while Detroit keeps clinging to the shadows of the past.

The mass exodus of the automobile industry led to significant urban decay; houses, and factories built in the 40s and 50s quickly fell into disrepair, as Detroit proper's population decreased by 30% every 20 years or so, abandoning their homes and leaving the decrepit, crime-ridden city. In the years between 2000 and 2010, 270,000 Detroiters left the city, more than a quarter of its population, twice the size of NOLA residents leaving after Hurricane Katrina. Urban Detroit is more dangerous than a hurricane.
The invention of the automobile built the city of Detroit, and Ford's innovations in production and labor laws made Detroit one of the most prosperous cities on Earth at one point, however as America developed, the automobile industries left, and Detroit was left behind.

Automobiles and Communist China

I was born a Chinese citizen, a military man, and defected to the United States. For my own privacy and safety concerns I would not go into any further details about my own backstory as well as my family's as we were an intensely military family. I'm going to broaden the topic to the era my grandparents lived in, describing how automobiles and Chinese Communist history interact with each other. My grandparents were born shortly after the conclusion of World War Two and the Sino-Japanese War, living through the

cultural revolution, the Great Leap Forward, and the gradual capitalisation of China in the 1980s.

The Communist View On Automobiles

Unlike electricity or gas, China's history of automobile ownership can accurately reflect the progression of Chinese history and the Communist Party's ideology and how they changed through the years. Electricity and gas were the amenities that the Communist Party deemed necessary to maximise production, thus were made readily available as soon as the economy was enough to support the infrastructure. Automobiles, however, were an amenity that was too bourgeoisie for private ownership until the 1980s. Before the 1950s, China was a largely agriculture country, consisting of farmers and soldiers and really no in-between. The People's Liberation Army had a few thousand soviet trucks and vehicles, but not one civilian owned any sort of private vehicle. There was no automobile industry until 1955, when the first automobile factory opened, producing 61 trucks in one year.

Private ownership of vehicles was not possible until Mao Zedong died and the reforms began. During the twenty years of 1950 to 1976, there were only three kinds of vehicles; buses, trucks, and sedans for government work and government officials. Every car is issued by the government for a specific purpose and has a designated driver. Cars were available but were collectively owned, with distributions similar to the idea of one truck per neighbourhood. While America was cruising down the highway in Plymouth Superbird and Mustang Eleanors, China was loading bags of turnips onto trucks.

The Chinese Automobile Market Throughout the Years

As there was no commercial need for automobiles, and the government's issuance of vehicles didn't respond as closely to the booming population of China at the time, the automobile industry was sluggish. In 1960, 50 years after Ford invented the assembly line, China was producing 22,574 vehicles per year, satisfying all of its transport needs. By contrast, America had 61 million vehicles cruising around by 1960, and Ford alone was making 1.4 million cars that year. America produced around 20,000 cars in 1905, 8 whole years before assembly line and mass production started. The production only increased to 87,000 cars per year in 1970, even though the Chinese population has grown by 300 million, which is about the current population of America.

After the capitalist reforms in the 1980s, China received massive boosts in the economy, and private ownership of cars was allowed. Even though domestic automobile manufacturing is slow, at only 443,000 per year, China made an effort to satisfy the growing need for private cars. China spent 3 billion dollars to import 350,000 vehicles, mostly Nissans and Toyotas at the time.

As the economy continues to boom, by 1986, most of the capitalists in the Western world has gotten wind of this budding market. Jeep, Volkswagen, Peugeot, Citroen, and Suzuki all signed joint venture deals worth billions for decades-long deal of developing and selling cars in China. Due to this joint venture and the sudden influx of foreign car-making technology, China was able to pump out 1.5 million cars per year in 1995. By the early 2000s, due to China joining the WTO, about 10-15% of Chinese households were wealthy enough for a private vehicle, a considerable increase from 0%. By 2005, due to the massive population and capitalised society, China was producing 5.7 million cars a year, a total of 9% of global car production. In 2023, China produced 30 million cars, most of them EVs to satisfy the environmental policies enacted by the government, producing 33.8% of the global production.

The Chinese route to automobile development was greatly different from America's. America produced as much volume as commercially needed, pumping out millions of beautiful and powerful vehicles throughout the years due to competition. Communist China, on the other hand, detested commercialisation of vehicles and believed vehicles were means of production and not something for leisure, only developing the industry well into the latter half of the 20th century, due to capitalist reforms.