Houjun Liu, Ella Lin, Hannah Drew
Chelsea Denlow
HIST301
24 January 2022

Historical Context

The early Gilded Age saw the expansion of "industrial capitalism" in the United States. Corporate roots of technologies drove industrialization like steel, and necessitated the proliferation of lower-middle class workers under America's capitalistic systems. The summer of 1877 brought "the most violent … labor relations in the Western world" due to the augmented "business dominance" (Domhoff 2013) of American society. The "Great Upheval," a period of social unrests marked by striking railroad workers, was described by Harper's Weekly as a "reign of terror" (Harper's Weekly 1877). The presidential deployment of soldiers to break up the striking workmen who had caused "nearly $40 million worth of property [damage]" only escalated tensions between employers and workers.

Around the late 1870s, a novel influx of German and Czech immigrants willing to work at very low wages in manual labor (Scheriov 2003, 246) created "the largest Bohemian community in America" in the city of Chicago (Green 2006, 70). The impacts of the Great Upheaval, coupled with general anti-socialist and anti-immigrant sentiments of the time, created a sense of "uneasiness" among citizens (Green 2006, 69) in Chicago. However, the Chicago police, despite their record number of arrests of workless "tramps," "did little to increase citizens' confidence … [due to their] former superintendent … being jailed on corruption charges" (Green 2006, 69). Therefore, when the Haymarket Affair — a peaceful-turned-violent meeting of the Workmen's party in 1886 — occurred, it was mostly the armed citizen-driven militias that were "call[ed] … to their armories [with] Civil War veterans meet[ing] to form volunteer companies" (Green 2006, 77). When the official police were "sent out to suppress rioters, [they] became rioters themselves… firing [their] pistols at bystanders" (Green 2006, 79).

"Tramp's Terror"

Seeking to monetize upon the pressurized chaos in Chicago and public distrust in safety, Illinois' Western Gun Works introduced a revolver billed as the "Tramps' Terror" (Leslie 1877).

Built using the "best English steel … [with] deadly accuracy and long range" (Leslie 1877), the firearm itself was a marvel of Gilded Age technology. The weapon's small profile, $3 cost, and its position as "the weapon for household use" (Leslie 1877) was a direct pandering to the fear of workers and strikes instilled in Chicagoans of the time.

Impacts and Reactions

The mass creation and distribution of Tramp's Terror was significant for two main reasons. From its inception, it was created specifically to make more accessible the process of the self-assertion of private property at the cost of violently dissuading working class protesters from lobbying for their own human rights. Advertisements of the gun "exploited the [public's] pervasive fear" (History Matters 2018), and created panic and hysteria that increased anti-labour and anti-immigrant sentiment. Furthermore, the build of this weapon — mass-produced steel — was itself a novel innovation of the Gilded Age: creating cheap weaponry that was also precise and durable enough to be shipped via a mail order.

The Haymarket Affair, as a whole, actually placed much more emphasis upon the centralization of police control and peacekeeping that eradicated much of the individualism that the event agitated. After the incident, "Chicago's richest man, Marshall Field, donate[d] thousands to purchase arms" (Green 2006, 79) in hopes of strengthening the force of Chicago's police, who also "drill[ed] regularly … in handling their pistols and their new arsenal" (Green 2006, 79). The "Tramp's Terror," therefore, represents the beginning of an ironic transition: a high-tech, mass-produced weapon that aimed to democratize the responsibilty of private protection, yet whose creation and use sparked a reckoning that actually reduced the exact individualism of control it afforded.

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History 301
January 24, 2022

Electricity World's Fair Exhibition Written Statement

Historical Context

Although electricity is often thought of as being invented along with the lightbulb, basic electric lights and motors were first built in the early 1800s. The telegraph, patented in 1837, used electricity to send messages, and powerful arc lights were used in some streetlamps and auditoriums. However, widespread usage of electricity was not feasible in the mid-1800s; arc lights were too powerful for homes or businesses, there was not a steady supply of electric power, and most electric appliances had yet to be invented.

The invention of a long-lasting commercial lightbulb, patented by Thomas Edison in 1879, led to electricity becoming much more commonplace. Lightbulbs were simpler to use and more stable than gas lamps or candles, and they could be implemented in homes and businesses. Along with the lightbulb, Edison designed a power plant system to transfer energy to nearby customers. The use for electricity coupled with the means to generate it led to widespread electrification. By the 1920s, the usage of electric lights was commonplace except for in very rural areas, and many other electric inventions had been patented, including the electric stove, vacuum cleaner, and washing machine.

Exhibit explanation (exhibit: lightbulb and LED)

The lightbulb is an incandescent bulb, similar to the one patented by Thomas Edison. Electrical current passes through a filament and heats the filament until it glows. Because they

were simple to use and safe, electric bulbs made it easier to work at night or in dim light. They also decreased the risk of fire, as gas lamps and candles were no longer necessary. They were a sign of progression towards a more modern world at the turn of the twentieth century.

The LED, or light emitting diode, is a stand-in for a LED lightbulb, a sign of a transition to a more modern world in the present day. LED bulbs are more environmentally friendly than incandescent bulbs, as they last longer and use less energy. They also emit almost no heat, and operate well in cold conditions. Because of these advantages, many people are switching to LED lightbulbs today, paralleling the transition to electric lighting in the late nineteenth and early twentieth century.

Impacts and reactions

The spread of electricity led to debates over which kind of power was the most safe and usable: alternating current (AC), invented by Nikola Tesla, which George Westinghouse bought the patent for, or direct current (DC), invented by Thomas Edison. DC power runs continuously in a single direction and is hard to transmit over long distances without energy losses, whereas AC power is higher voltage and can go longer distances with a lower current, though it is riskier than DC power. Edison attempted to make the public distrust AC power, by using it to kill animals and even to run an electric chair at an execution. Westinghouse then had an AC-run power plant built to generate clean, inexpensive energy from Niagara Falls; the energy was used to power part of New York City. Westinghouse also won the contract to power the 1893 Worlds' Fair due to the flexibility of AC power, which gave him the good publicity he needed to make AC power the standard. Today, AC and DC power are both used: while AC is used to transport power, DC is used for batteries.

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Henry Swint, Theo Chiang

Chelsea Denlow

History 11

23 January 2022

The Street Car & Subway

Year: 1983

1) the historical context of your exhibit

Since the early 1840s, leaps in transportation technology have spurred entrepreneurial competition among proponents of the car industry. In such a thin period, several means of automated propulsion have been devised. The first public transit system was an answer to the intense urbanization of California's San Francisco Bay surrounding the Gold Rush. Instituted in central San Francisco, the "The Yellow Line" was a horse-drawn omnibus route that operated between Portsmouth Square and Mission Dolores. The success of this operation lead to the mass spread of bus lines across San Francisco. Next, inventor George Medhurst led proposals for the first machine-powered transportation in the form of pneumatic travel. Despite promising designs, pneumatic travel was shut down in recent years due to issues such as the requirement of atmospheric systems as well as public disapproval of overhead tunnels in which the transportation cars would have existed. At 4 AM, August 2,

1873, Andrew Hallidie revolutionized the transit industry by introducing the world to its first cable car on Clay Street in San Francisco, California. Hallidie's system, inspired by mining conveyance vehicles, gained popularity in San Francisco and Seattle quickly for its performance on steep hills. Following his invention, other companies quickly followed suit, imitating Hallidade's design and implementing them in San Francisco. Although currently, steam-powered cable cars are the dominant streetcar, promising developments of the electric battery may lead companies to completely turn to electric cars. Already many businesses are transforming their cable car infrastructures to electric.

2) an explanation of your exhibit item

Our exhibit depicts a late model of a San Francisco streetcar developed by Clay Street Hill Railroad. This technology reflects the pinnacle of urban, above-ground transit in our time. The car offers a comfortable cabin capable of seating 20 passengers and traveling at rapid speeds of up to 9 miles per hour. This pace allows the streetcar to compete with the most efficient horse-drawn carriages with the advantage of a cheaper, more reliable source of propulsion. Current cable systems are powered by potent steam engines and exist in branches across The Golden City. The model measures 9 inches long, 3.9 inches wide, and 3.5 inches tall. Some physical features to note within our model are our historically realistic exterior windows and branding.

3) the impacts and reactions to this "marvel of modernity"

Without a doubt, cable cars are a revolutionary invention and have a huge upside potential coming into the new century. The transformation of San Francisco transportation infrastructure firmly demonstrates the cable car's effectiveness and erases any doubt among critiques for its inevitable spread, whether in the form of electric vehicles or steam. As of today, 53 miles of cable car track are laid out within San Francisco with thousands of passengers a day. This massive infrastructure effectively maximized efficiency in San Francisco and allowed for increased urbanization and population. Faster travel has also allowed for a more connected city and increased opportunity for individuals, all proponents of a better economy. Without a doubt, the modern streetcar has certainly earned itself the title of a "marvel of modernity".

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HIST301 US History Section 2 Period 3
24, January 2022

World's Fair Exhibition: Steam Engine Oil Drill & Petroleum

Historical context:

For more than a hundred years, Americans, along with most of the western world, had been using whale blubber processed into an oil for illumination. However, about halfway through the 18th century, they were faced with a big problem. Much like with the negative externalities seen in the fishing industry today, the whale oil industry, having hunted whales to near extinction, was simply running out of whales to hunt. As the whale population dipped to dangerously low levels, so did the supply of whale oil leading to higher prices and a need for an alternative.

With prices for illuminants high, "rock oil", which we now refer to as petroleum, would soon become a popular alternative. A man by the name of Samuel Kier was the first able to process this rock oil (derived from shale) into something usable for illumination: kerosene. Initially, rock oil was found sitting on a body of water in Titusville. There, the first commercial oil company by the name of The Seneca Oil Company was founded. In order to harvest the rock oil, they would skim it off the surface of the water for later processing. However, this industry would not remain this way for long. After Dr. Benjamin Silliman of Yale University first examined a vial of this new oil and stated it would make a great illuminant, this operation attracted the attention of several businessmen, one of which was by the name of Edwin L. Drake. Given the lower efficiency of this process, they soon were interested in locating where the oil was actually coming from and Drake was convinced it was coming from below ground.

The 19th century was more or less powered by steam and this emerging industry would be no exception. Drake soon enlisted an expert salt driller to utilize a steam-powered drill to search for the oil. In the face of mockery for continuing his efforts despite no early success, Drake soon struck oil at around 60 feet confirming his hypothesis and unleashing the events that would lead to a booming United States oil industry.

Exhibit Description:

This exhibit primarily focuses on modeling the revolutionary mechanism behind the workhorse of the oil industry in the mid 19th century: the steam-powered oil drill. In order to display the mechanism behind the steam-powered oil drill, we created a 3-dimensional animation of the inner workings of a 9 horsepower single cylinder steam-powered oil drill: a Jessop and Appleby Engine. During the late 19th century, one of the most common industrial steam engines was the Jessop and Appleby engine, an apt choice for many steam drilling projects due to its high

torque and low maintenance cost. For this reason, Jessop and Appleby engines were used in all sorts of industries: vinegar breweries, construction, and most importantly oil drilling. The exhibit allows the observer to understand the intricate systems behind even the simplest steam-powered oil drills and just how quickly they progressed from something as simple in the animation to the portable, reliable drills of the early 20th century.

Impacts and reactions:

Although "rock oil" was available prior to the development of the steam drill, it was only as a result of the higher efficiency and increasingly versatile oil extraction the drill provided that the American energy landscape was changed so dramatically. Drake's drilling technique was able to tap oil repositories originally thought impossible to extract oil from. In a manner similar to that observed during the gold rush, people on the fringes of society and experienced businessmen alike rushed to take advantage of this development. Entire towns formed around the sole purpose of oil drilling. Soon, Rock oil went from a rarity to powering the nation. Since Drake himself and the company he worked for never patented his new invention, an entire industry was soon spawned in the development of superior steam-based oil drills.

However, despite the large quantities of crude oil being harvested, many refineries were having trouble keeping up with the demand due to the inefficiency of their processes. One person who took advantage of this opportunity was John D. Rockefeller, a man who would soon become a household name due to his effective monopolization of the oil industry. With Standard Oil and a number of other large scale competitor's streamlining the oil refinery process and despite the fact, kerosene was turning into the sorely needed alternative for other illuminants, this rush to take advantage of the industry actually created too much supply for the existing market, resulting in a large bust. Although this was the first time such a bust had occurred, it would be far from the last as this pattern is generally recognized as a hallmark of the oil industry. This bust forced many smaller-scale oil-based operations to sell and even abandon their equipment allowing many near-monopolies to buy up and consolidate the industry, taking the means of production out of the hands of the many and placing it further into the hands of the few. As a result, this led to the famous "Standard Oil Alliance" that would iconically fuel the American economy while also contributing to the "gildedness" of the era.

The consolidated industry then began to pour money into research and development. Many scientists began working to improve the distillation process by which kerosene is refined. Soon, an efficient process for obtaining a much more versatile version of kerosene was developed effectively once and for all, casting the competitors into obscurity. Research was also conducted to find an application for, what was at the time thought of as a useless byproduct due to its far too combustible nature, gasoline. This led to automobiles which would also shape the face of the United States for decades to come.

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Deshan, Elle, Charlotte -- Skyscrapers

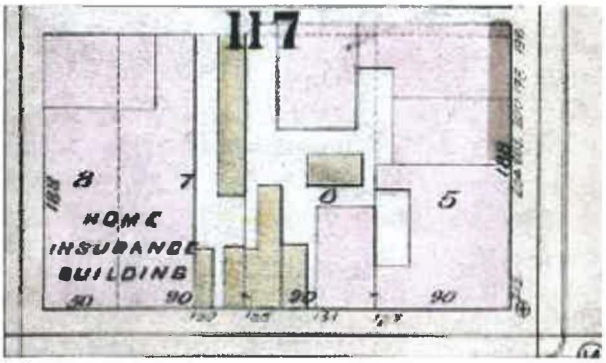
Historical Context

The technological innovations and the expansion of business in the Gilded Age influenced the growth and increasing prevalence of skyscrapers. As companies grew, more and more employees needed to work in urban areas as opposed to rural areas, and skyscrapers provided a high density of office space. The availability of modern building materials such as cast iron and steel and the technological advancement of steel skeleton buildings enabled the construction of stable, tall vertical spaces. The structure of a skyscraper involves a strong load-bearing steel frame to which walls are added, which meant that skyscrapers could be taller, lighter, and have more windows than the thick, heavy masonry walls of prior buildings. Additionally, new technological amenities such as the high-speed passenger elevator and electricity made these vertical edifices feasible work and living spaces. Overall, skyscrapers symbolized both industrialization and the prowess of technological advancements during the Gilded Age.

Explanation of Exhibit Items

The first exhibit item is a 3D digital model of the twelve-story, 180-foot tall Home Insurance Building, considered to be the first modern skyscraper in the world. Although nowadays New York City is perhaps the most famous home of skyscrapers, the Home Insurance Building was located in Chicago, where steel-framed skyscrapers, the new generation of skyscrapers, were first constructed. The Home Insurance Building was the first example of the innovative steel-framed skyscraper; hence its reputation as the world's first modern skyscraper.

The Home Insurance Building was built in 1885 as a ten-story edifice with two more floors added in 1890. The 3D digital exhibit is a true-to-scale model of the Home Insurance Building that situates the skyscraper in its original location on the northeast corner of LaSalle Street and Adams Street in Chicago. The 3D digital model is digitally constructed from a blueprint of the Home Insurance Building. Skyscrapers from this era often had decorative bases and tops, which is represented in the 3D digital model. The Home Insurance Building no longer exists as it was demolished in 1931, and replaced by another skyscraper, the Field Building, known today as the LaSalle Bank Building.



The second exhibit item is a physical four-story model that presents the evolution of skyscrapers from the early Gilded Age to the present. The first story of the model depicts early Gilded Age commercial buildings, which were typically three to six stories tall. The second story of the model portrays the Home Insurance Building skyscraper (1885), indicative of the modern

skyscraper. The third story of the model presents the Chrysler Building (1930), illustrative of skyscrapers in the early post-Gilded Age era. The fourth story of the model is of a modern day skyscraper, emblematic of how far skyscraper technology has progressed in its visual and structural complexity.

Impacts & Reactions

The modern skyscraper, born in Chicago, Illinois, is today a ubiquitous geographical sight globally. However, it was not without its controversy, as some people were concerned about the safety of skyscrapers. In fact, construction on the Home Insurance Building in Chicago was suspended for a while until city officials were assured of the safety of the structure. However, most people were impressed with the skyscraper, which became a symbol of American pride and modernization that would eventually be copied the world over. After Chicago, New York City (NYC) followed suit, and the Woolworth Building became the first sixty-story building in 1913. In 1916, an NYC zoning resolution resulted in the iconic stepped "skyline" that we associate with skyscraper-filled cities today. As Louis H. Sullivan, who is considered the father of skyscrapers, noted, the modern skyscraper is "...an architecture that will soon become a fine art..., an art that will live because it will be of the people, for the people, and by the people" (Sullivan).

The modern skyscraper also revolutionized the construction industry. The capital-intensity and technological intricacies of skyscraper construction were unachievable for small construction firms. This led to the development of large general contracting firms that had both the personnel, capital, and technology to successfully erect skyscrapers. Additionally, the substitution of machinery for labor and the introduction of specialized tasks in skyscraper

construction led to the erosion of the power of workers and the decline of traditional artisans in the building industry. Overall, skyscrapers were a visual symbol of the changing, fast-paced business world, and they came to represent the growing modern world of commerce in addition to technology.

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HIST301 US History Section 2 Period 3
24, January 2022

World's Fair Exhibition: Steam Engine Oil Drill & Petroleum

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Impacts and reactions:

Although "rock oil" was available prior to the development of the steam drill, it was only as a result of the higher efficiency and increasingly versatile oil extraction the drill provided that the American energy landscape was changed so dramatically. Drake's drilling technique was able to tap oil repositories originally thought impossible to extract oil from. In a manner similar to that observed during the gold rush, people on the fringes of society and experienced businessmen alike rushed to take advantage of this development. Entire towns formed around the sole purpose of oil drilling. Soon, Rock oil went from a rarity to powering the nation. Since Drake himself and the company he worked for never patented his new invention, an entire industry was soon spawned in the development of superior steam-based oil drills.

However, despite the large quantities of crude oil being harvested, many refineries were having trouble keeping up with the demand due to the inefficiency of their processes. One person who took advantage of this opportunity was John D. Rockefeller, a man who would soon become a household name due to his effective monopolization of the oil industry. With Standard Oil and a number of other large scale competitor's streamlining the oil refinery process and despite the fact, kerosene was turning into the sorely needed alternative for other illuminants, this rush to take advantage of the industry actually created too much supply for the existing market, resulting in a large bust. Although this was the first time such a bust had occurred, it would be far from the last as this pattern is generally recognized as a hallmark of the oil industry. This bust forced many smaller-scale oil-based operations to sell and even abandon their equipment allowing many near-monopolies to buy up and consolidate the industry, taking the means of production out of the hands of the many and placing it further into the hands of the few. As a result, this led to the famous "Standard Oil Alliance" that would iconically fuel the American economy while also contributing to the "gildedness" of the era.

The consolidated industry then began to pour money into research and development. Many scientists began working to improve the distillation process by which kerosene is refined. Soon, an efficient process for obtaining a much more versatile version of kerosene was developed effectively once and for all, casting the competitors into obscurity. Research was also conducted to find an application for, what was at the time thought of as a useless byproduct due to its far too combustible nature, gasoline. This led to automobiles which would also shape the face of the United States for decades to come.

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HIST301 Block 3

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Social Darwinism

Historical Context

Charles Darwin was primarily concerned with the evolution of species from a biological perspective, but many scholars of the Gilded Age took advantage of his theories and applied it to the "evolution" of society. Herbert Spencer, who coined the phrase "survival of the fittest," believed that progress in all areas of life was simply an evolution from homogeneity to heterogeneity. In terms of society and the economy, that meant that each individual had their specific duties and used their advantages, often at the expense of others, to grow their own power and riches. Later, Andrew Carnegie used Social Darwinism to justify building his vast empire of wealth on the backs of poor laborers. For him, philanthropy was worth nothing without inequalities and colossal economic success.

William Sumner, born more than 20 years after Spencer, took what might be called a more extreme stance. He initially used Social Darwinism as a theory in order to advocate for laissez-faire economics and the government lessening economic restrictions, like taxation. His best-known work, *The Forgotten Man*, describes a harmful market failure, freeloading. He argues that the poor freeload off of the work of richer citizens who receive no benefits in return. Sumner, however, also took it a step further, propounding that because poor people have no property, they also deserve to have no liberty. In fact, all three of these prominent Social Darwinists contended that the best way for society to progress was to ignore the plights of the poor and to allow more successful individuals to flourish without restrictions. Only through this "evolution" could society escape barbarity and war.

Exhibit Explanation

These three political cartoons reveal three different facets of Social Darwinism. The first is a version of a world without Social Darwinism from the perspective of supporters of the theory. This cartoon depicts savage barbarians fighting each other while surrounded by the poor and unwell. Scattered in the crowd are a few hard-working middle-class citizens ("the forgotten men") being taken advantage of by the poor ("the freeloaders"). The cartoon illustrates how Social Darwinists believe those who do not contribute positively to their community should be removed or will eventually overrun the hard workers and lead to society's downfall. The second cartoon is a view of the world with Social Darwinists as espoused by proponents like Herbert Spencer and William Sumner. This cartoon depicts a golden city with Aryan men and their trophy wives at the forefront. Above them are the words "survival of the fittest." These men are the best of the best in society, having survived and won the race to the top. In the background are hard-working citizens in their various jobs contributing to societal progress. The third and last cartoon is a Social Darwinist world from the perspective of opponents of Social Darwinism. This cartoon is a wider perspective on the first where the golden city is atop an island surrounded by dark, choppy waters. In the water, the impoverished, colored, disabled, criminals, and other "unworthy" are drowning and being eaten by sharks labeled "progress." This cartoon reveals the dark consequences of Social Darwinism and how it discriminates against those deemed unfit or lesser than.

Impacts and Reactions

In the late 19th century, the theory of Social Darwinism became closely associated with the rapidly changing social, economic, and political climates. One of the most obvious effects of Social Darwinism is its direct influence on the growing disparities between classes. As industrialization boomed, immigrants flooded into America to work in factories. In part because the newly popularized theory of Social Darwinism deemed these workers as "lesser," their working and living conditions were often extremely hazardous, and the government enforced very little regulation over working and living conditions for immigrants. Epidemics, fires, and general social disorders were frequent occurrences in the tenements, the harsh housing occupied by immigrants during the 1800s. There was no form of social

welfare, another effect of Social Darwinism's neglect of poor people. Social Darwinism encouraged growing disparities between classes, which consequently created a new form of chaos: "class warfare." In one extreme case, more than 100 railway workers were killed in 1877 during a strike over wage decreases. Another aspect of American history which was greatly influenced by Social Darwinism was its foreign affairs. Social Darwinism was used as a method of rationalizing America's propensity for imperialism and expansion because it suggested that as a "greater nation," it was within our rights to overpower nations deemed as "lesser." However, on the other side of Social Darwinism, many reformers refused to accept the ideals of this classist philosophy, and eventually these ideas were cast away as pseudoscience.

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