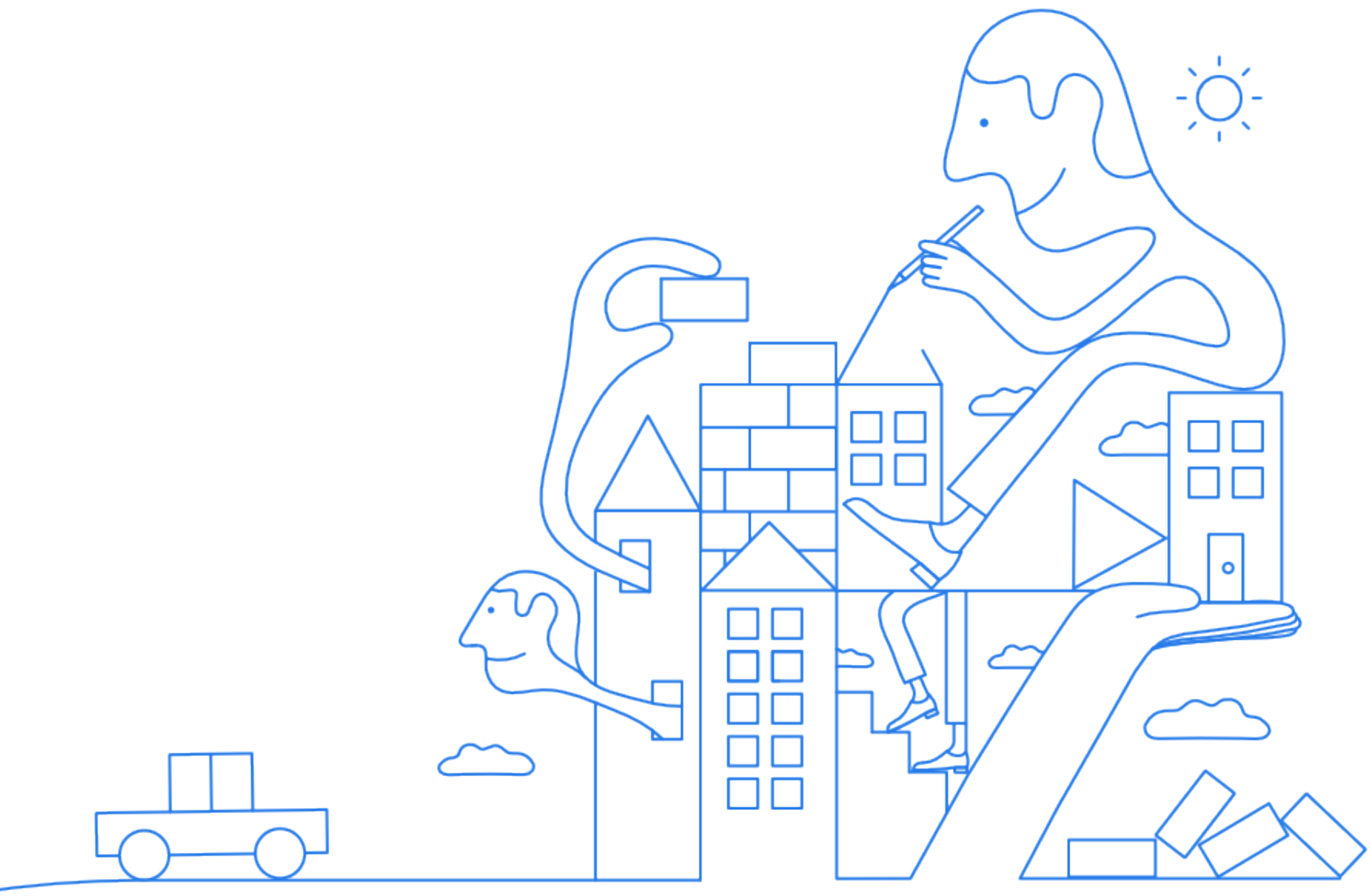
What We Said When the World Changed

How we reacted to the car, the airplane, and the idea of the world changing forever.

By Morgan Housel, the Collaborative Fund



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There is no market for secondhand newspapers.

This morning's paper is outdated. Yesterday's is trash. Last month's is long gone.

Old news quickly loses its relevance in a world where information is instantly updated.

Which is a shame.

Newspapers offer more than the day's news. They provide a snapshot in time of how people viewed the world.

That snapshot, viewed in hindsight, can be more useful than the current news, because it lets you piece together how the world actually played out relative to how people viewed it at some point in the past. You can see where people went wrong, what they overlooked, and how they navigated the most important events of history. Or even just the boring ones.

What the stock market did today doesn't matter. But reading about how people obsessed over what it did on any given day in, say, 1990, is telling. The stock market is almost 11 times higher today than it was in 1990. So reading a 1990 article about what a 0.5% decline meant for investors makes you want to yell, "None of this matters! Just take a long-term view!" That's one of the most valuable lessons in investing. And you don't get it reading today's newspaper. You get it -- clear as day -- from old newspapers.

One place old newspapers find a vibrant life is the Library of Congress. It holds millions of newspapers, some dating back to the 1700s.

I dug through its archive to analyze how we reacted to yesterday's big breakthroughs.

This report focuses on two of the biggest inventions of the 20th century: The car and the airplane. Telling their stories through old newspapers reveals two trends:

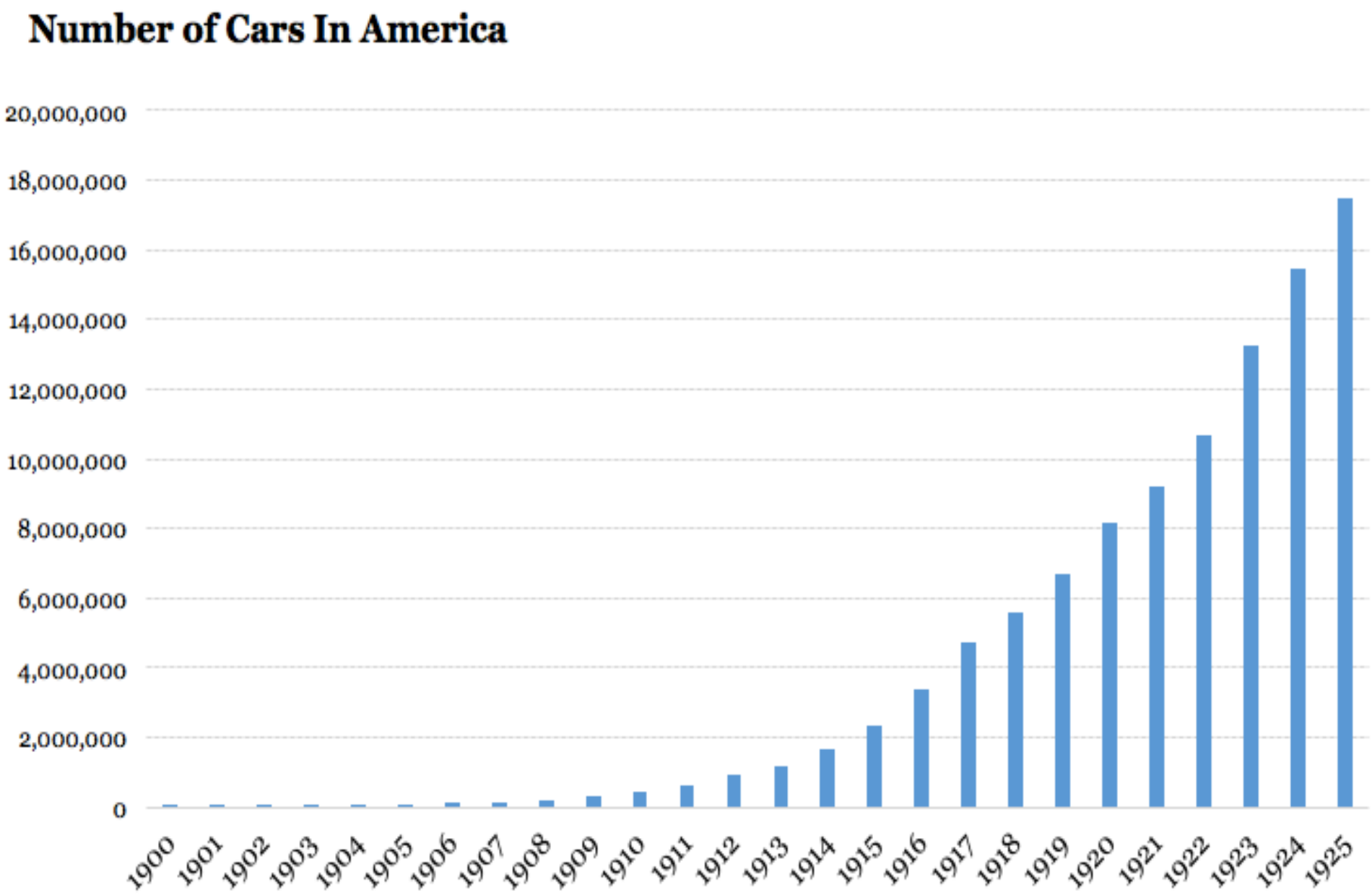
- Big inventions follow a path of starting as jokes, then turning into toys, then as practical tools, and finally as cultural movements.

- Even when it's obvious that an invention is going to be a big success, we have no idea how it will eventually be used, or for what purpose.

The story of how we responded to the car and the airplane holds insights into our ability to recognize and forecast innovations when they burst onto the scene.

Inventions always change, but psychology is timeless, so their stories reveal how we're likely to respond to big breakthroughs tomorrow.

Part 1: The Car



Department of Transportation

Our first reaction to the car wasn't excitement, but fear that the world was coming to an end.

References to the "horseless carriage" in the late 1800s are usually alongside the name Mother Shipton.

Mother Shipton was a 14th century English soothsayer. She gained fame centuries after her death, which let authors retroactively attribute fake predictions to her name to make her look prescient.

At some point Mother Shipton was said to have predicted the world would come to an end in 1881 -- which, in the 1870s, made people nervous.

This was also around the time that the idea of replacing the horse with a motor picked up in engineering circles, which made a line in Mother Shipton's end-of-the-world prophecy stand out:

> *Carriages without horses shall go;*
> *Disaster fill the world with woe...*
> *In water iron then shall float,*
> *As easy as a wooden boat.*

Carriages without horses shall go.

This made-up line played a big role in convincing people in the late 1800s that the horseless carriage was not only right around the corner, but foretold doom.

On December 23rd, 1894, a Kansas City doctor attached a crude electric motor to a buggy and rattled it around his neighborhood.

The Associated Press reported: It was, of course, a sign of Mother Shipton:

MOTHER SHIPTON'S PROPHECY.

An Electric Carriage Terrifies Two Negroes at Kansas City.

Associated Press Leased-wire Service.

KANSAS CITY (Mo.,) Dec. 23.—A horseless carriage went skimming along the smooth asphalt pavement of Fourteenth street, in the vicinity of Cherry street, today, fulfilling Mother Shipton's prophecy that "Carriages without horses shall run," and terrifying two negroes, who saw sparks and apparently sulphurous flames issuing from under it. . . .

The vehicle was an electric carriage of Kansas City invention and manufacture, and is the only one in the United States, although similar ones are used in the Old World. The invention is Dr. H. C. Baker's, and was patented by himself and J. H. Eiberg, in whose carriage shop in this city the carriage was made. F. S. Patton had charge of the electricity, and the machine worked perfectly. A speed of eleven miles an hour was obtained.

This was one of the first newspaper mentions of a "horseless carriage" operating in America. Others had been reported in Germany and France. But details were vague and credibility was low.

On Christmas Eve 1894 -- the day after the Mother Shipton event in Kansas City -- the *New York Times* reported on a French breakthrough:

An extraordinary horseless carriage, which is not electric, but propelled by steam, is an innovation in France. It is built of tubes, which are incased in a light framework, and, therefore, not seen. These tubes form the tank to supply the water direct to the cylinders, for there is no boiler. The water is conducted into two little tubes with closed ends, over oil-lighted wicks no larger than those of a duplex lamp. These supply steam for the cylinders sufficient to propel a carriage for four persons at the rate of fifteen miles an hour over level ground, and three or four miles an hour up ordinary road grades. The wheels are fitted with bicycle spokes, and have solid rubber tires. A coachman sits in front before a pair of upright handles not unlike those of a bicycle, with which he steers. The first cost of these carriages is about $1,000, but the kerosene wick is a cheap horse, and costs nothing to keep and little to make go.

1895 is when references to the horseless carriage began taking off. Stories went from reporting on alleged inventions in other countries to towns reporting on cars roaming their own streets.

Most cities celebrated the arrival of their first car as a major event. This, from the *Los Angeles Times* in 1899, is a common example:

A HORSELESS CARRIAGE.

THE FIRST AUTOMOBILE ARRIVES IN LOS ANGELES.

A Gasoline Motor Trap for Five. Starting, Stopping, Steering and Speeding to Be Practiced on Country Roads Before City Streets are Tried.

The automobile has come. A horseless carriage was received from the East Saturday by S. R. Henderson; yesterday it was uncrated and set up, and today it will be run for the first time.

The idea of a car was so strange to most people that reporters had to explain what it was in intricate detail. *The Boston Globe* wrote in 1896 shortly before the arrival of its first car:

> The delivery vans or wagons will not be outwardly different in appearance from those at present in use, except that there will be no horses in front, and that the steering, instead of being performed by reins, will be effected by means of a long arm or wheel, the perpendicular rod from which will be attached to the lock under the front wheels of the vehicle.

As more prototypes hit the streets and it became clear that the car was not just a toy, three social problems flooded people's minds.

The first was what would happen to the faithful horse.

On August 23, 1897, the *New York Times* wrote about progress in automobiles. The thrust of the story was mourning the passing of the horse:

> Sensitive and sentimental folk cannot view the pending change without conflicting emotions. There are reasons why the departure of the horse from the streets and the park drives should be considered gratifying. But it must be confessed that he will take with him a kind of picturesqueness which the self-moving wagon will never supply. Moreover, man loves the horse, and he is not likely ever to love the automobile, even after Mr. KIPLING idealizes it. Nor will he ever get quite used, in this generation, to speeding along the road behind nothing. The gracefulness of the horse will be sadly missed for a long while, and the afternoon pageant on Bellevue Avenue, in Newport, will not seem nearly as fine as it is now.

Washington D.C. banned cars in 1897 on the grounds that they would put the horse -- whose market share had already declined due to the bicycle -- out of business, and frighten them in the meantime. As reported by T*he Washington Post:*

The commissioners of the District of Columbia are determined that the horses whose occupation has so largely been taken away by reason of the use of bicycles shall not further be displaced by horseless carriages. An enterprising grocer has for some time past sought to obtain a permit to run a horseless wagon for delivering his goods The commissioners refuse to grant the permit on the ground that it will frighten horses, and now the grocer is working to get up a numerously signed petition that he be allowed to put his horseless vehicle to use The question has aroused a good deal of discussion.

The horse industry pushed back against the car. In 1899 William Quimby, chairman of a Boston horse association, told the *Boston Daily Globe* that transportation economics still favored the horse:

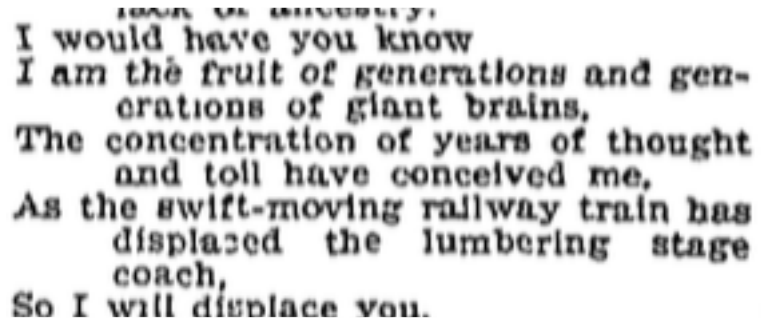
Mr Quimby said the price of motor vehicles has got to come down before any serious falling off will be found in the horse traffic.

Having given the figures which he said the rubber tires cost per day, Mr Quimby said that until the price of rubber falls considerably below what it now is, or it is replaced by wood, it is useless to talk of the horse being supplanted by the electric motor. A two-ton machine, he said, costs $1 a mile to run, or $3 to $5 a day for tires.

One of his correspondents told him that in order to do that he would have to earn $25 a day to make any money.

Mr Quimby then went into figures to prove the accuracy of what he had stated. He gave these statistics on horses: "There is still plenty of work for the horse and he is becoming very valuable and more necessary as time goes on. Idaho, Nebraska, Kansas and Texas have over 8,000,000 working horses.

Others saw replacing the horse as an extension of the Industrial Age, where man used his brain to become more powerful than any other form of animal power. The *LA Times* wrote a poem in 1900 wishing the poor horse well:

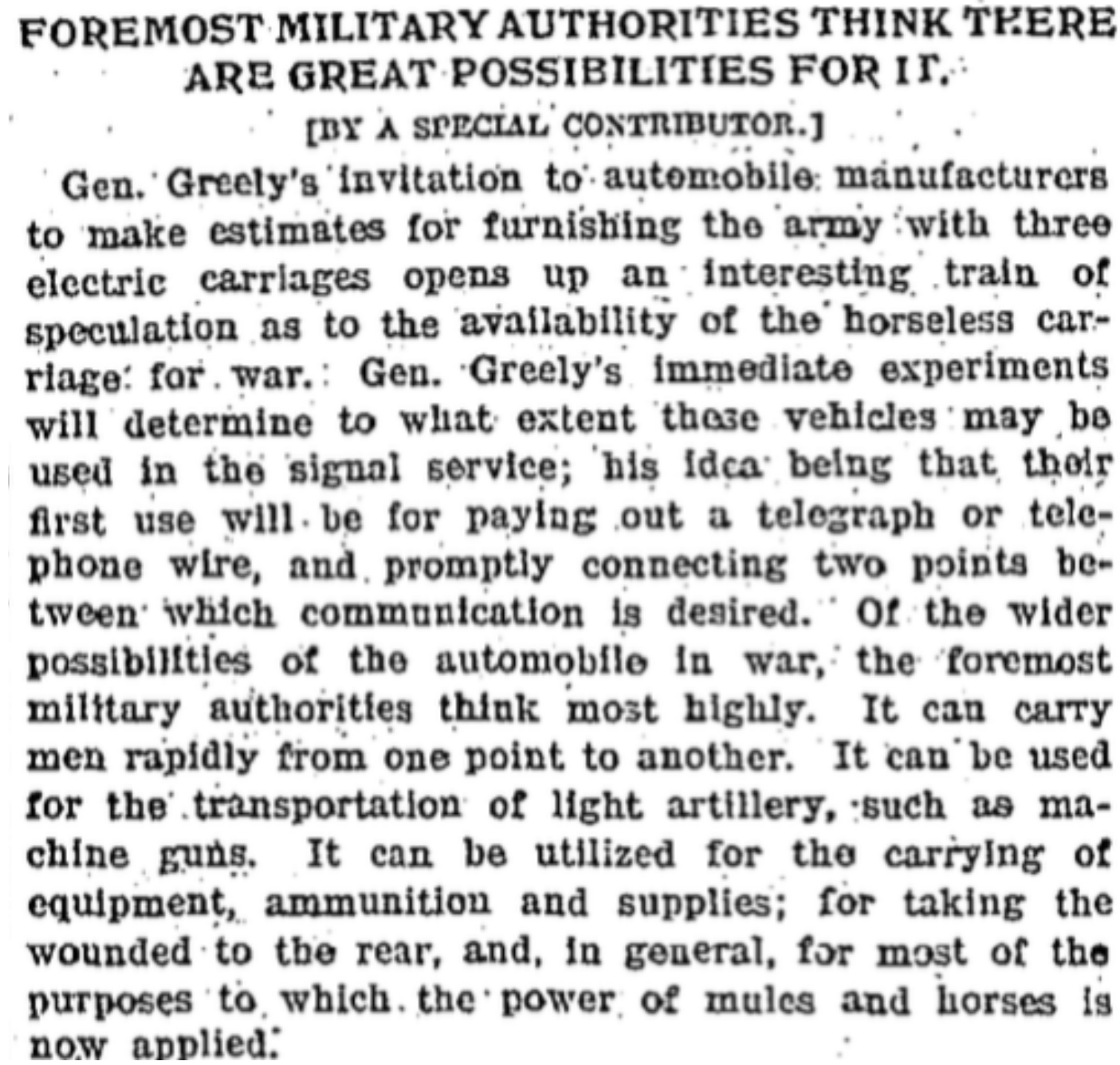


I would have you know
I am the fruit of generations and generations of giant brains,
The concentration of years of thought and toil have conceived me,
As the swift-moving railway train has displaced the lumbering stage coach,
So I will displace you.

The second social issue was whether we could use the car for war.

Early on, people didn't think much about whether you could commute to work in a car, or take it to the store. The thought about whether you could strap a machine gun to it and transport troops.

The U.S. Army purchased three automobiles in 1899. Shortly before the purchase the *LA Times* wrote about the Army's interest in cars, and what cars might be capable of:



THE AUTOMOBILE IN WAR.

FOREMOST MILITARY AUTHORITIES THINK THERE ARE GREAT POSSIBILITIES FOR IT.

[BY A SPECIAL CONTRIBUTOR.]

Gen. Greely's invitation to automobile manufacturers to make estimates for furnishing the army with three electric carriages opens up an interesting train of speculation as to the availability of the horseless carriage for war. Gen. Greely's immediate experiments will determine to what extent these vehicles may be used in the signal service; his idea being that their first use will be for paying out a telegraph or telephone wire, and promptly connecting two points between which communication is desired. Of the wider possibilities of the automobile in war, the foremost military authorities think most highly. It can carry men rapidly from one point to another. It can be used for the transportation of light artillery, such as machine guns. It can be utilized for the carrying of equipment, ammunition and supplies; for taking the wounded to the rear, and, in general, for most of the purposes to which the power of mules and horses is now applied.

A year later -- before the car was widely used for delivering goods or transporting families -- it was already outfitted for combat, called "the horseless gun carriage" by *The San Francisco Chronicle:*

HORSELESS GUN CARRIAGE.

MAJ. DAVIDSON'S WONDERFUL THOUSAND MILE TRIP TO WASHINGTON.

By a Special Contributor.

AND now the automobile has become an engine of war. On the 15th of September a company of cadets in command of Maj. R. P. Davidson, of the Northwestern Military Academy, near Chicago, will set out for a thousand-mile trip to Washington with an automobile cannon carriage, carrying a colt automatic gun. This has just been completed by the Duryeas of Peoria, Ill. It will be propelled by a six-horsepower gasoline motor and it weighs about one thousand pounds. The cost will be something like $1500. It will have three rubber-tired wheels, two behind and one in front, with seats over the rear axle for four gunners, side bars being provided as on a gun caisson, to which the men may cling when the cannon carriage is driven into action.

The third social issue the car highlighted: women's rights.

It was commonly believed in the 1800s that riding a horse or commanding a carriage was too difficult and physically exhausting for a woman to handle. The car, though, was something women could control as well as men.

The *LA Times* wrote in 1899:

THE AUTOMOBILE INN.

A WOMAN WHO EXPECTS TO OPEN A HORSELESS CARRIAGE INN EXPLAINS WHAT IS NEEDED.

By a Special Contributor.

"The automobile has opened a new field for women who have their own livings to earn," observed a woman the other day, who proposes to become the proprietor and manager of a new old-fashioned country inn. "People are just beginning to appreciate the many advantages of this novel means of travel," she observed,

A Chicago newspaper wrote in 1898:

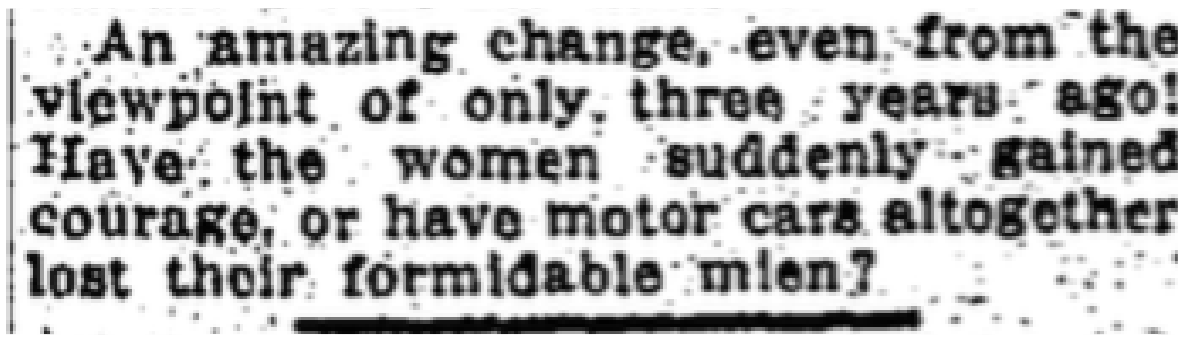
> "There are at present in the city of Chicago twelve ladies who are entitled to classification as full-fledged automobile operators, since they regularly make trips about the city in automobiles, unattended or accompanied only by lady friends. In New York City there are twice as many. The city of Philadelphia has two or three feminine automobilists, and upward of a score of other ladies are found in the smaller communities throughout the country. Several women physicians in various sections of the country are already using automobiles regularly in making their professional calls, and the new mode of travel has so many advantages that it is certain of a very general adoption.

The same article described two groups of women the car would help the most:

> Two classes of women to whom the automobile will mean much—strange though it may appear at first thought—are the professional nurses in the hospitals and kindergarten teachers in the large cities. The automobile ambulance, with its greater speed and reduced jarring and jolting of patients, will indirectly prove helpful in many ways to the white-aproned workers in wards of suffering. To the kindergarten instructors, the horseless vehicles will prove a great convenience in returning the little pupils to their respective homes. One benefit it will confer, which will doubtless be appreciated to a greater or less extent by pretty nearly every woman in the land, is in the improvement of the postal service. Especially will this be true in the rural districts, where the automobile will do much to hasten the day of universal delivery, and will be best appreciated by farmers'

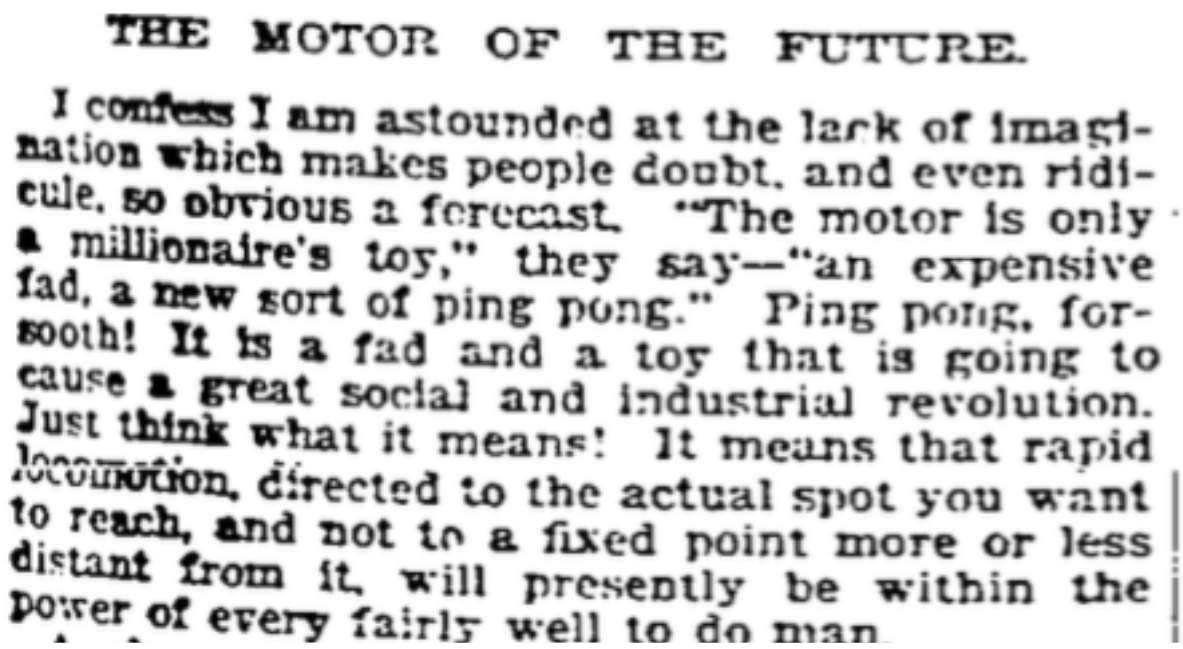
In 1905, the *LA Times* wrote about the growing number of female drivers and auto mechanics. Both would have been unthinkable in virtually any other industry a decade prior, especially for large machinery.

It concluded:


An amazing change, even from the viewpoint of only three years ago! Have the women suddenly gained courage, or have motor cars altogether lost their formidable mien?

Despite rapid growth -- by 1905 there were 54,590 cars in America -- the car still had skeptics. Woodrow Wilson said the car promoted “the arrogance of wealth.” This was a common reaction. Yes, the car was amazing. But it was just a rich person’s toy.

In 1904, *The Washington Post* pushed back against these ideas. The car, it said, was democratizing transportation:

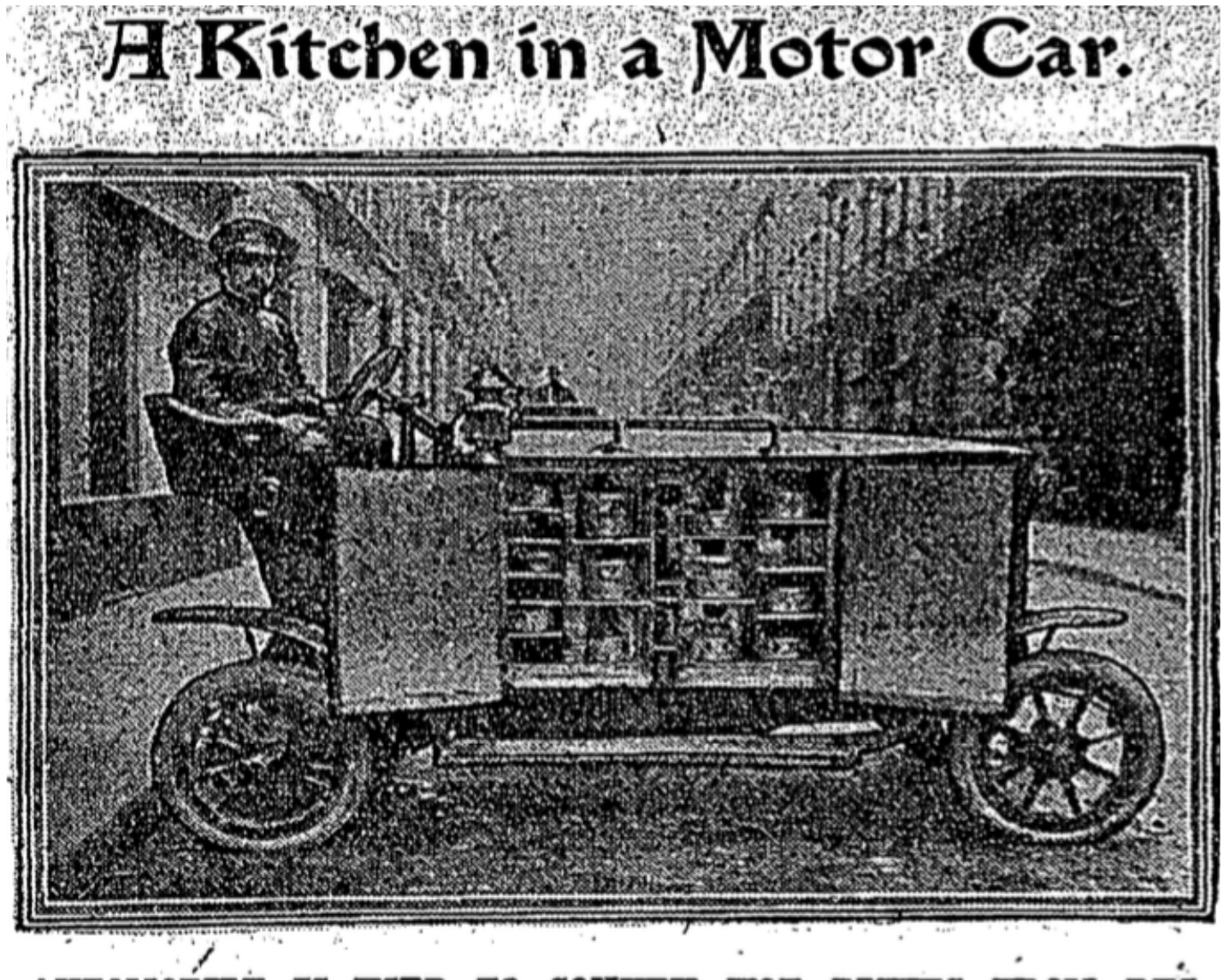

THE MOTOR OF THE FUTURE.

I confess I am astounded at the lack of imagination which makes people doubt, and even ridicule, so obvious a forecast. "The motor is only a millionaire's toy," they say—"an expensive fad, a new sort of ping pong." Ping pong, forsooth! It is a fad and a toy that is going to cause a great social and industrial revolution. Just think what it means! It means that rapid locomotion, directed to the actual spot you want to reach, and not to a fixed point more or less distant from it, will presently be within the power of every fairly well to do man.

By 1907, the car was becoming more mainstream.

As so often happens with innovations, the basic car set loose millions of tinkerers and experimenters who used the automobile as a platform to expand their personal lives.

The Washington Post reported in 1909 on the first use of a hot-food delivery car, which restaurants used to deliver their food around town. (Image on following page.)



AUTOMOBILE IS USED TO CONVEY HOT DISHES FROM RESTAURANT TO PRIVATE FAMILIES.

[London Sketch.]

This eight-horse-power car has been specially fitted in the manner shown. Hot dishes are conveyed from the kitchen of a well-known Parisian restaurant in the saucepans in which they have been cooked, and are delivered piping hot to the customer.

Others used cars to perfect mail delivery, for doctors' house calls, sales appointments, and joyrides.

People who had never ventured more than a few miles beyond their homes were suddenly free to explore the country. The easier it was to meet with new people, the easier it was to share new ideas. And new ideas are where economic growth comes from.

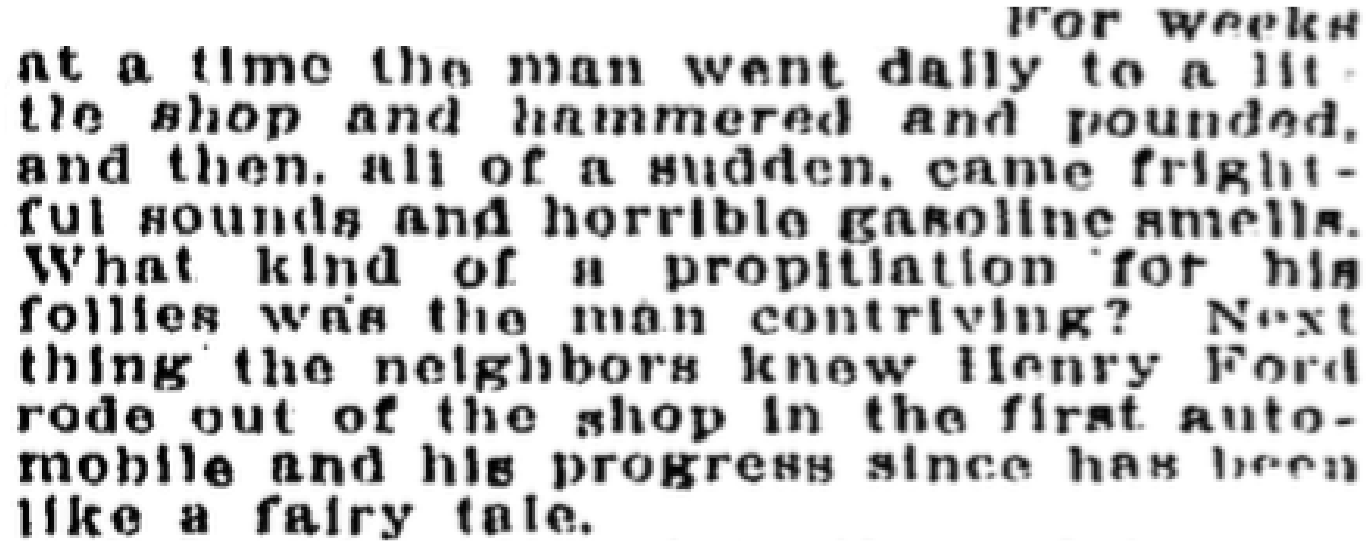
Los Angeles figured this out early, and invested heavily in paved roads to promote car travel. One 1914 headline in the *LA Times* summed it up:

Ready for 1915.

NETWORK OF HIGHWAYS MAKES COUNTY RICH.

Around 1910 cars became viewed a major source of business -- both in what a car could do to make other industries more productive, and the actual manufacturing of cars themselves.

In 1909, the *Atlanta Constitution* published a short biography of a semi-known man named Henry Ford. Ford was starting to build some of the best cars in the world, and people were taking notice:



for weeks
at a time the man went daily to a lit-
tle shop and hammered and pounded,
and then, all of a sudden, came fright-
ful sounds and horrible gasoline smells.
What kind of a propitiation for his
follies was the man contriving? Next
thing the neighbors knew Henry Ford
rode out of the shop in the first auto-
mobile and his progress since has been
like a fairy tale.

Ford's success did three things: It reduced the cost of vehicles; It expanded access to cars to average Americans; And it created the first great American industrial employment system that went on to dominate the next 80 years of economic growth.

The Detroit Free Press wrote in 1911:

FORD MOTOR CO. REDUCES PRICES

The Production of 30,000 Cars in 1911 Brings Down Cost—Henry Ford's Long-Cherished Idea.

The announcement is made today that the Ford Motor company will reduce the price of its cars. The price of the Ford model T. five-passenger touring car, is reduced from $950 to $780; and the price of the Ford Model T roadster is reduced from $900 to $680.

This announcement, together with the statement that this company will increase its production of 20,000 cars in 1910 to 30,000 in 1911, carries much significance and is indicative of the pulse of the automobile world at the present time.

Two things were remarkable about Ford Motor: How many cars it could produce in a day, and how much it paid its employees. The two were connected. One of Ford's big ideas was that higher pay would lead to lower labor turnover, which would lead to a more productive and skilled workforce.

A June 1914 article in *The New York Times* summed it up:

DETROIT, Mich., Jan. 5.—Henry Ford, head of the Ford Motor Company, announced to-day one of the most remarkable business moves of his entire remarkable career. In brief it is:

To give to the employes of the company $10,000,000 of the profits of the 1914 business, the payments to be made semi-monthly and added to the pay checks.

To run the factory continuously instead of only eighteen hours a day, giving employment to several thousand more men by employing three shifts of eight hours each, instead of only two nine-hour shifts, as at present.

To establish a minimum wage scale of $5 per day. Even the boy who sweeps up the floors will get that much.

Before any man in any department of the company who does not seem to be doing good work shall be discharged, an opportunity will be given to him to try to make good in every other department. No man shall be discharged except for proved unfaithfulness or irremediable inefficiency.

The world's most efficient labor force and insatiable demand for cars let Ford keep slashing prices, which created a cycle of more demand, more profits, more productivity, lower prices, and on and on.

The *Atlanta Constitution*, July 1914 (image on next page):

FORD PRICE REDUCTION ASTONISHES AUTO WORLD

Henry Ford Keeps Up His Policy of Selling at Lowest Possible Price.

Detroit, Mich., August 16.—When the Ford Motor company reduced the prices of its cars August 1, the percentage of the cut was larger than that of any ever made by any automobile company, it is said.

These reductions were made in the pursuance of the fixed policy of Henry Ford, adopted ten years ago, when he established his great industry at Highland park, to sell his motor cars at the lowest figure which his production would permit, consistent with his ideals as to quality.

So tremendous has been the success of the Ford cars that the production has advanced each year with extraordinary leaps, and the Ford Motor company has become one of the marvels of the industrial world. This marvelous growth has enabled Mr. Ford to batter down the prices of his car to a point within the reach of the pocketbook of everyone.

Like most inventions the car started as a curiosity, became a toy, was gradually accepted, and then utterly took off.

Ford's productivity sparked the "take-off" stage from 1915 to 1920.

A combination of manufacturing efficiency, social acceptance, and World War I sent car ownership through the roof.

The Washington Post noted what cars were doing to family life (image on following page):

Motor Car Influences Family Life.

Just consider the features of the automobile that make it a necessity. It is a quick, safe, dependable private conveyance, with all of the independence, comfort, and pleasure that that implies. It eliminates the inconveniences of suburban living for the man whose occupation is in the city. It is the inducement for keeping a man and his family in the fresh air. It keeps the family closer together, because it affords a pleasure that all can share. It has the broadening influence that results from active social intercourse.

In these days of high living cost, keen competition, and wonderful commercialism, time is the greatest asset. The man who can accomplish the most is the most successful. Action is the keynote of success. The motor car extends the field of operation not alone for the business man, but for the professional man as well. In fact, for every one who works. The tradesman, the farmer, the physician, the lawyer, the manufacturer, the salesman, and so on through the list, can each and every one see how an automobile would increase his own efficiency. Few will claim otherwise.

World War I devastated the world, but was a gift to the car.

European car factories were largely converted to build guns and shells, giving American producers a leg up in exporting cars overseas. And since necessity is the mother of invention, the war offered years of high-stakes tinkering and creativity that allowed people to uncover all kinds of practical uses for the car.

The New York Times, November 1918:

WAR'S EFFECT ON AUTOMOBILE TRADE

Motor Cars No Longer Mere Luxuries ---Progress in Simplifying and Standardizing Manufacture

As the 1920s came, the car's popularity began posing problems.

One was where to park them all. *The Los Angeles Times* wrote in 1921:

EVERYBODY DISSATISFIED

Of course we have been making tentative and superficial efforts to answer this question for some time, but with results so unsatisfactory than in the larger cities car owners have given up the attempt to drive to their offices near the center of business and even in moderate sized towns the merchants, the police and the car owning public are most rissatisfied with these results and with each other.

So recent is our realization of this problem that there are regulatory authorities who still approach it from the point of view that the automobile owner is more or less of a nuisance who should be thankful for whatever facilities are grudgingly granted him, and some traffic experts who maintain that inasmuch as two or three riders in an automobile take up more space in a city street than do several times that number in trolley cars or subway trains, therefore the answer is to limit more and more strictly the use of automobiles in downtown areas, perhaps confining it to taxicabs which, being more constantly in use, serve a greater number of passengers and call for only a fraction of the parking space.

But the car continued to transform America.

In 1914, there were 1.6 million cars in America. Ten years later, there were 15.5 million -- a growth rate of 26% per year for a decade.

In 1914, the idea of needing a car still seemed absurd to most families. By 1924 families saw one car as not enough. *The LA Times*, 1923 (image on following page):

MANY FAMILIES TWO-CAR FOLKS

DOUBLE GARAGES INDICATE A DEMAND FOR THE SMALL CAR

Reports from the official building permits offices, showing a big increase in the number of double garages for even the most modest of small homes, reflect the fact that thousands of families have now become "two-car" folks.

This conclusion is drawn by D H. Thomason of the Thomason Motor Car Company, Star dealer.

Mr. Thomason reports that a big percentage of his sales of Stars, since he took over the new Durant-made line of automobiles, has been to business men who already had one or more machines. Without exception, they were eager to get a car like the Star whose low initial cost, small upkeep expense and staunch, good-looking construction appeal to the man who wants to know how his motoring dollars are being spent.

By January 1929 there were 23 million cars in America, up from 8,000 at the turn of the century.

In 20 years the car had completely transformed American life. What would it do over the next 20?

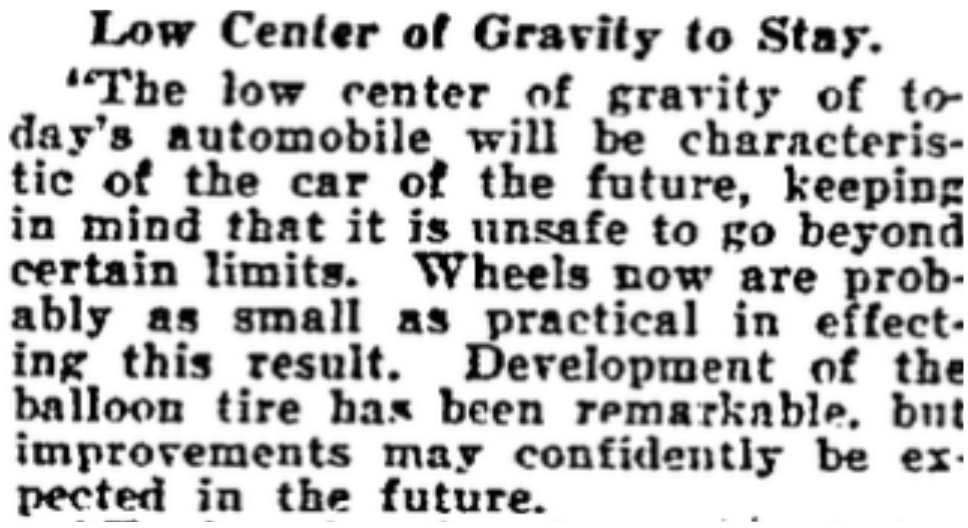
The editors of the *Atlanta Constitution* looked ahead, forecasting the future of the car.

One prediction: Automatic transmission would never become popular:

While the attention of the automobile driving public has been drawn to the so-called automatic gear-shift, Mr. Wood believes the present method has been made so easy that it is difficult to conceive of a more convenient operation for changing speeds of the motor.

"We have had many types of automatic gear-shifts, and all were discarded in favor of the present method," said Mr. Wood. "To remove the gear shift lever would allow more space in the front seat, but the expense of installation would hardly compensate for this slight inconvenience. Development is indicated in transmissions, but here also the added cost may prove a deciding factor.

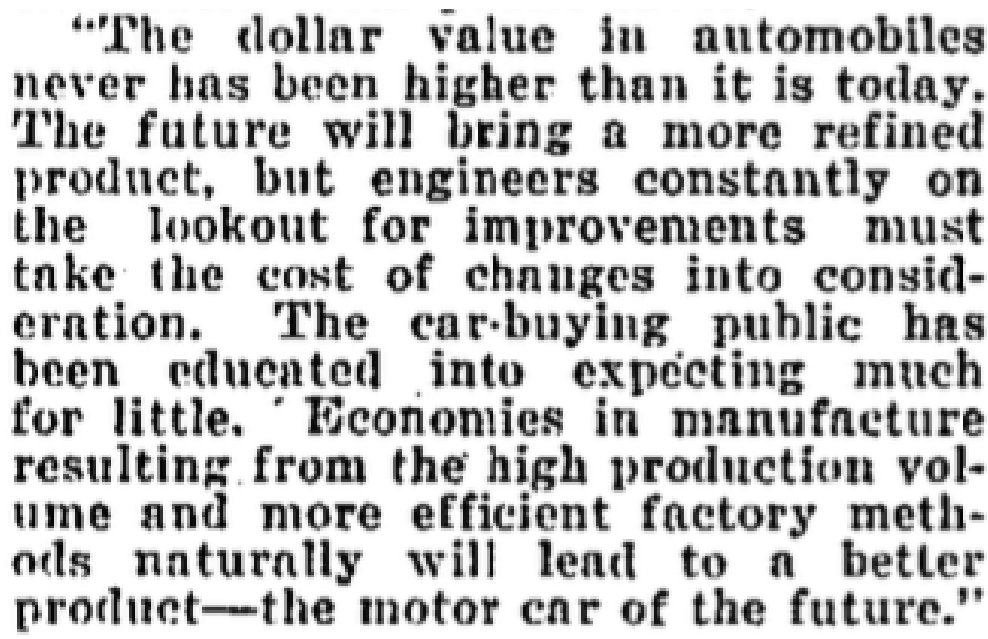
Two, taller cars like SUVs and trucks were unlikely to become a thing:



Low Center of Gravity to Stay.

"The low center of gravity of today's automobile will be characteristic of the car of the future, keeping in mind that it is unsafe to go beyond certain limits. Wheels now are probably as small as practical in effecting this result. Development of the balloon tire has been remarkable, but improvements may confidently be expected in the future.

One thing they nailed: The car would keep getting better, and cheaper:



"The dollar value in automobiles never has been higher than it is today. The future will bring a more refined product, but engineers constantly on the lookout for improvements must take the cost of changes into consideration. The car-buying public has been educated into expecting much for little. Economies in manufacture resulting from the high production volume and more efficient factory methods naturally will lead to a better product—the motor car of the future."

From the time people thought Mother Shipton was foretelling the end of the world until the time cars lined every American city was less than 30 years. Most of that advancement took place in less than 15 years. No one could have foreseen how much the car would transform American life. It started slow, creeped ahead, and then took off, like compound interest.

Just as people were marveling at the car, another transportation breakthrough was changing the world in an even larger way.

Part 2: The Plane

By 1880, people had been dreaming of flight for centuries. They had been trying it for decades. But it remained elusive.

Some thought it was impossible.

The Detroit Free Press, January 1889:

A FLYING MACHINE.

Several Reasons Why it Appears Impossible to Make One.

We must admit that a bird is an incomparable model of a flying machine. No machine that we may hope to devise, for the same weight of machine, fuel and directing brain, is half so effective. And yet this machine, thus perfected through infinite ages by a ruthless process of natural selection, reaches its limit of weight at about fifty pounds. I said, "weight of machine, fuel and directing brain." Here is another prodigious advantage of the natural over the artificial machine. The flying animal is its own engineer. The flying machine must carry its engineer. The directing engineer in the former (the brain) is perhaps an ounce, in the latter it is 150 pounds. The limit of the flying animal is fifty pounds.

The smallest possible weight of a flying machine, with the necessary fuel and engineer, even without freight or passenger, could not be less than 300 or 400 pounds. Now to complete the argument, put these three indisputable facts together: 1. There is a low limit of weight, certainly not much beyond fifty pounds, beyond which it is impossible for an animal to fly. Nature has reached this limit, and with her utmost effort has failed to pass it.

On June 7 1896, *Washington Post* reporters were told that man, for the first time in history, had indeed flown an airplane.

Of those attempting to fly, Samuel Langley seemed the most promising, given his background and funding.

When Langley announced that he had flown, news reporters wanted details. Which is the one thing Langley wouldn't provide.

The Post wrote (image on following page):

THIS is a story of a chase after a flying machine.

When the startling news was made public by Profs. Bell and Langley that the latter's flying machine did on the 6th of May, 1896, actually fly, everybody in the world was excited to know the particulars. The two eminent scientists would only say that their flying machine did fly, and that the experiment was made near Occoquan.

The reticence of the professors may have been pardonable from their point of view, but it was exceedingly exasperating to the world at large. No course was left open for the seeker after larger knowledge, but to reincarnate Sherlock Holmes in himself and attempt to run down the flying machine, and also, possibly, some who had seen it and who would be less reserved than the inventors.

Many people claimed to fly, but few were willing to do it publicly, for spectators and journalists, because early flying machines were so unimpressive. They were gliders, if not glorified parachutes.

But the idea of flight was so incredible that tinkerers and inventors risked their lives for years trying to figure it out.

The Los Angeles Times, February 1901:

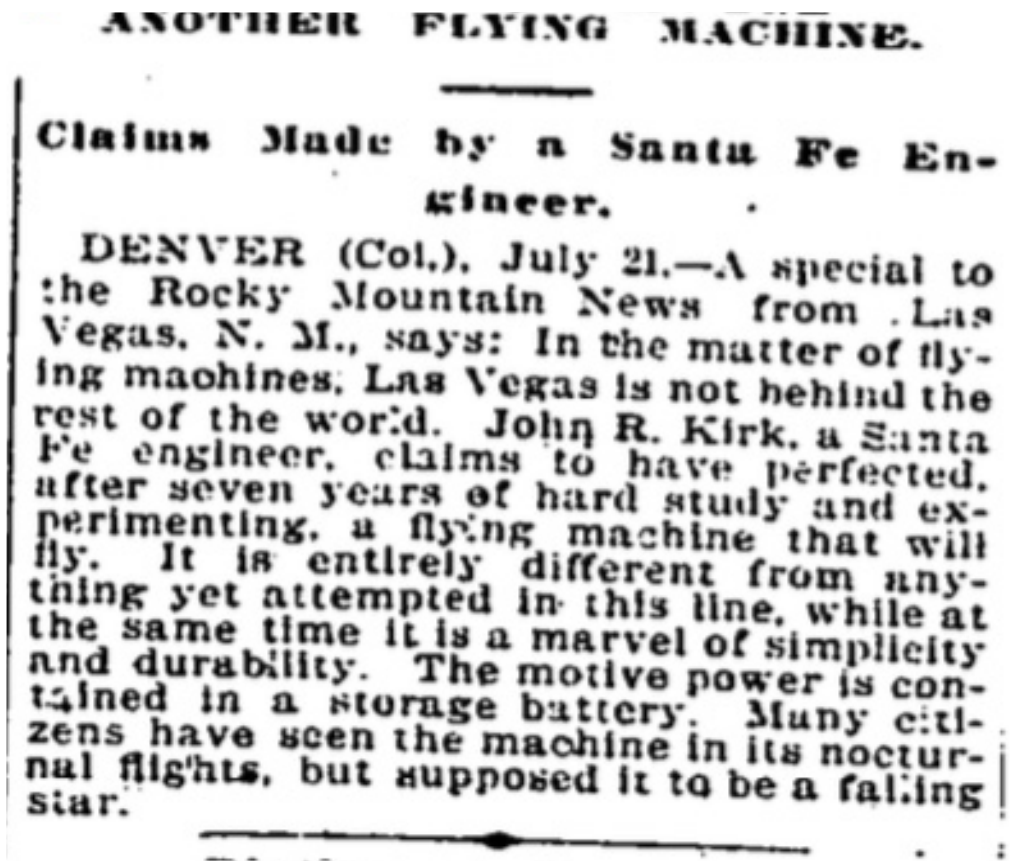
EASY ENOUGH TO FLY, SAY THESE SOARERS.

THE BUZZARD IDEA OR BALLOON THEORY, WHICH WILL WIN?

Professors of Aerial Navigation in This City Describe Their Vehicles—The Flying Machine as a Means of Escape from the Devil.

IT WOULD be difficult to say how many flying-machine inventors there are in Los Angeles. Almost every soaring genius has tried his hand at the machine-bird. Two of these aerial endeavorers, however, have been caught on the wing by The Times' artist in their flights—flights of imagination, 'tis true, but none the less flighty for all that. Your flying-machine inventor generally flies that way.

In August 1902 *The San Francisco Chronicle* claimed yet another human conquered flight:



ANOTHER FLYING MACHINE.

Claims Made by a Santa Fe Engineer.

DENVER (Col.), July 21.—A special to the Rocky Mountain News from Las Vegas, N. M., says: In the matter of flying machines, Las Vegas is not behind the rest of the world. John R. Kirk, a Santa Fe engineer, claims to have perfected, after seven years of hard study and experimenting, a flying machine that will fly. It is entirely different from anything yet attempted in this line, while at the same time it is a marvel of simplicity and durability. The motive power is contained in a storage battery. Many citizens have seen the machine in its nocturnal flights, but supposed it to be a falling star.

We now know that Orville and Wilbur Wright first flew in December 1903.

In a fascinating twist, few people paid much attention, despite the excitement around the idea of flying.

On April 6, 1904 -- five months after the Wright's flight -- *The Washington Post* wrote a smart question about flight, based on the idea that no one had done it yet:

Flying Machine Ideals.

From an interview with Sir Hiram Maxim.

Any one who has studied the flight of birds cannot fail to have noticed that many of them do not appear to exert as much energy in flying as a small animal does in running. The motor car and the locomotive are able to run three miles while any land animal is only able to run one. Why then should we not make a flying machine that will outfly the swiftest bird?

Only a handful of newspapers covered the Wright's first flight. The *New York Tribune* was one of them. It wrote on December 20th 1903 (image on following page):

FLYING MACHINE WORKS.

Successful Trial by Ohio Men with Machine on Box Kite Plan.

Norfolk, Va., Dec. 18.—A successful trial of a flying machine was made yesterday, near Kitty Hawk, N. C., by Wilbur and Orville Wright, of Dayton, Ohio. The machine flew for three miles in the face of a wind blowing at the registered velocity of twenty-one miles an hour, and then gracefully descended to earth at the spot selected by the man in the navigator's car as a suitable landing place.

The machine had no balloon attachment, but gets its force from propellers worked by a small engine.

Preparatory to its flight it was placed on a platform built on a high sand hill, and, when all was in readiness, the fastenings to the machine were released, and it started down an incline. The navigator, Wilbur Wright, then started a small gasolene engine, which worked the propellers. When the end of the incline was reached, the machine gradually arose, until it obtained an altitude of sixty feet. In the face of the strong wind blowing it maintained an even speed of eight miles an hour.

There had been so many false claims of flight that the Wrights weren't taken very seriously. One 1904 headline in the *LA Times* sums it up well -- it had to persuade readers that it actually worked:

FLYING MACHINE
THAT REALLY FLIES.

Years went by.

The Wrights returned to Dayton, Ohio, where they perfected flying.

Five years after their first flight in Kitty Hawk, people started paying attention.

The LA Times, May 29th 1908 (image on following page):

AERIAL

FLYING MACHINE.

The Two Brothers Wright Have It.

Secrets of Its Construction Are Made Public for the First Time.

Do not Think Aeroplane Will Ever Compete With Railroads.

Just like the car, one of the first social questions people asked about the plane was: Can we strap a machine gun to it?

From an interview with the Wright brothers, *LA Times,* June 1908:

> The utility of the airship, they think, will lie entirely in its advantage as a reconnoitering agent in time of war. They have no desire to sell their invention to a private company but desire to have the War Department at Washington take it up.

The Boston Daily Globe, January 1909 (image on following page):

MACHINE GUN ON FLYING MACHINE

Latest Development in Making the Aeroplane of Practical Value in Warfare.

Even early on in its existence, people saw what the plane was capable of in war -- and how it would change combat forever. *The New York Times*, July 1912:

AIRSHIPS IN WAR

Will Turn the Battlefield Into a Chessboard

THE AEROPLANE IN WAR. By Claude Grahame-White and Harry Harper. Illustrated. J. B. Lippincott Company. $3.

TO get anywhere near the ideal in war it is necessary to go back to the primitive. Then, if two men evolved a mutual hatred of one another, they fought it out between themselves, and each shouldered the responsibilities of his own dislike and his own fighting. The more civilized we grow the farther we get from that ideal. The man who sends the challenge and the man who takes it up recede further and further from the battlefield and suffer the results of their actions less and less. And the aeroplane, like every other invention that has been turned to martial use, intensifies this condition. It will make, say Messrs. Grahame-White & Harper, of the battlefield a chessboard, at which the two commanders in chief will sit, using men and guns as their pieces. And so war, becoming more and more a thing of cold-blooded intelligence instead of hot-blooded brute force, will become more and more a thing satanic, malevolent, horrible.

April 1909, *The Washington Post* wonders what the plane could be used for. It concluded: Beyond military, not much. Maybe carrying two or three people, and never much cargo:

> The aeroplane, or heavier-than-air machine, while it will find its greatest use in military equipment and as a sporting craft, still has much promise of practical utility for travel in cross-country flight, carrying from one person up to as many passengers as are now carried by an average-sized automobile. There never will be such a thing as commercial aerial freighters. *Freight will continue to drag* its slow length along the patient earth.

Others saw the plane's potential, and smartly compared it to the automobile, which, by 1910, had gained traction. The comparisons were clear: A breakthrough piece of machinery that had enormous potential, but for the time being was a rich person's toy.

The Christian Science Monitor, December 2, 1909:

> Those who recall distinctly the early days of the automobile will find in all this a repetition practically of what happened when an effort was being made to popularize the horseless carriage. The pioneers of the aeroplane, like the pioneers of the automobile, must be people of considerable means and leisure. In course of time aeroplanes will very likely be marketed at a figure much smaller than $7500, and it will not be necessary to go to Florida in order to learn how to operate one; but until models are brought to approximate perfection, and parts may be duplicated, and the labor and time employed in construction shall be reduced to the minimum, and aviation fields and stations shall become as numerous as garages, the average man will have to content himself with the pleasure of seeing others fly, or be satisfied with an occasional trip in the aeroplane of a fortunate friend or in a public flying machine.

Just like the car, World War I was transformational to the plane.

It necessitated development and production that increased the quality of planes by a staggering amount in just a few years.

The St. Louis Dispatch, December 1918 (image on followign page):

Motors even now almost as reliable as steamship engines, and passenger traffic in sky to become general as soon as public is convinced of this fact — Odds thousands to one that pilot reaches ground safely even if motor goes dead—Devices for landing without danger, for getting off ground without long preliminary run, and for silencing noise of engines and propellers -0- -0- -0- -0- -0-

The years after the war were the first time it became obvious that planes could be used for practical, civil purposes. *The New York Times*, October 1918:

IN this war the achievements of the airplane have captured the imagination of the American people. In the period following the war, in like manner, the greatest interest is to be centred on the airplane, as to the place it is to take as a commercial and pleasure vehicle.

Already many questions are being asked, foremost among them: What chance has the average man of owning and operating an airplane? What, on account of the landing problem, will be the limitations on private ownership? Is the time near at hand when the tired business man will take a spin in the air instead of in his automobile on land, as he does now? Will there be commercial passenger airplane lines between the large cities? How many passengers may they be expected to carry? What about commercial freight routes for light packages?

Manufacturing capacity built for the war was switched over to civilian use, creating a system capable of mass producing planes, leading to the first commercial airlines. It can't be stressed enough how important the war was to making the commercial plane a viable business. *The New York Times*, March 1919 (image on following page):

COMMERCIAL PLANES MAKING BIG STRIDES

Manufacturers See Great Future for Freight, Passenger, and Even Taxi Service.

LANDING PLACES NEEDED

All Energies Previously Devoted to Warcraft Being Turned to Industrial Purposes.

As planes grew larger and more powerful, we began using them for something many doubted would ever occur: hauling freight. *The Baltimore Sun*, May 1924:

First Freight Airplane To Make Flight Today

If Successful, Other Carriers Will Be Built, It Is Declared.

[By the Associated Press.]

Dayton, Ohio, May 20.—For the first time in the history of army aviation an airplane is to leave Wilbur Field tomorrow with a cargo of freight.

In a recoditioned Martin bomber No. 2, 100 pounds of airplane parts and equipment for pilots will be flown from Wright Field to Scott Field, Belleville, Illinois.

As far as records go, this will be the first time that an airplane has ever taken aloft for the sole purpose of transporting freight. Should the trip be successful, more planes will be built to carry large quantities of freight and flights to all air posts in the district supplied from the depot at Wright Field will be made.

Scott Field is approximately 400 miles distant from Wright Field.

Chicago launched the first passenger airliner in 1922. *The Chicago Tribune*:

CITY SEES FIRST SIX PASSENGER AIRPLANE

The first six passenger airplane to be built in the United States was constructed at Wabash, Ind., by the Service Training and Transportation company. It will be used exclusively as a commercial plane and will carry passengers to all large cities in the United States. [TRIBUNE Photo.]

Charles Lindbergh crossed the Atlantic in 1927, shocking the world and showing what the plane was capable of. He predicted that soon many people would be flying across the Atlantic. *The Chicago Daily Tribune*, May 1927:

TRANS-ATLANTIC AIR TRIPS NEAR, LINDBERGH SAYS

Points to Aviation Gains in 20 Years.

The plane connected areas of the world that were previously nearly impossible -- or highly impractical -- to travel to even by train, given geographical constraints.

The Nation's Business, November 1928:

New York to Bagdad via the Air Line

Unhampered by ice, forests, swamps, or seas — the airplane will be our long distance carrier, bearing mail, freight and passengers to the antipodes

As planes became more advanced, many wondered what they'd look like in the future.

One prediction was pretty good, foreseeing what sounds like the B2 Bomber. *The New York Tribune,* June 1928:

THE airplane of the future will be but a single wing and a tail! It will have no long central body as have the aircraft of to-day. It will be driven through the air by a multitude of high-powered engines, and the limit to its size and speed will be governed solely by the physical conditions of landing fields which it will be compelled to use.

There is no ascertainable reason why this future aircraft shall not attain a speed of 500 miles an hour in the air. It will have none of those necessary features of the present airplane that cause such tremendous resistance to forward motion and compel the use of almost twice as much power as is really needed.

Of course at present this is but a forecast based upon one successful experimental model, but it is also based on a theory so sound that it is gaining increasing conviction in the minds of aeronautical engineers.

This “flying wing” idea was popular. *The Washington Post*, October 1929:

AIRPLANE OF THE FUTURE

From the New York World.

A gigantic wing, speeding through the air like a bodyless bird, with engines, landing wheels, passengers, freight and fuel all housed inside between its lower and top covers, may be the transport aircraft of the future.

Engines of the two-stroke cycle type, burning distillates instead of gasoline, and being about one-fourth lighter than present motors, mounted in power plants of four, six, eight, ten or more, may drive the "flying wing" leviathans of the future at high speeds over long distances.

This glimpse into the future of the air is contained in a recent statement by John H. Geisse, for many years aircraft engine experimental engineer for the Army, the Navy and commercial builders.

As passenger flight took off in the 1930s, commerical planes remained small, carrying between 10 to 20 people. Some imagined a day when a plane might carry as many as 50 people. Others thought 20 people was the max a commercial plane would ever carry. *The Washington Post*, March 1932:

Official Describes Future Airplane

Fort Worth, Tex. (U.P.).—A small, compact and fast airplane, with a seating capacity of eight or ten persons, is the future passenger airplane of America, Philip C. Johnson, 37-year-old president of United Airlines, believes.

Persons who visualize the sky crowded with big ships of the DO-X type must change their picture, he said in a short discussion while stopping here en route from Chicago to the Pacific Coast.

As the cost of travel fell and people became more comfortable with the idea of flying, more common civil uses popped up. One was the idea of flying for a family vacation. *The Washington Post*, May 1930:

By FRANK J. CARMODY.

For a selfish reason, of course, but offering certain advantages, aviation is more than willing to take care of the transportation of summer vacationers in 1930.

As a matter of fact, it rather expects to be the medium of travel chosen by a considerable number of those bent on "getting away" for a week, month, or as much time as is available. It offers by way of an inducement such virtues as incomparable sight-seeing facilities, lower fares than ever before, averaging somewhere in the vicinity of five cents a mile, speed, comfort on a greater scale, and, above all, novelty.

Apart from these, aerial operators point out that there are few resort centers or merely generally good vacation spots which can not be reached now by air. There is an airplane to take one to the Atlantic coast resorts if one's taste in vacation grounds is there, to the woods of northern Michigan, Wisconsin, or Minnesota if one cares to hunt and fish in this famous region, to the Adirondacks, the northern Rockies, the dude ranches of the West and Southwest, the Pacific Coast, Gulf resorts, or anywhere else one may choose.

One popular vacation in the 1930s was "skytouring," or a weeks-long jaunt from city to city, with time in the air being the highlight of the trip. *Christian Science Monitor*, May 1935:

Skytouring to Adventure

Two Weeks' Vacation Is Time Enough to Go Almost Anywhere Now That Luxurious Planes Span the Country in Less Than a Day

By Robert W. Desmond

MODERN SHIP OF THE AIR IN FULL FLIGHT

Courtesy, American Airlines, Inc.

Even the Great Depression didn't diminish air travel. This, from July 1933, sounds like something you'd read during the peak of a booming economy. *The Washington Post*:

Millions of Dollars Put Into New Equipment to Get Business.

Chicago, July 11 (A.P.).—The skyways of the Nation are being "double tracked."

A survey of major air lines carrying passengers to every corner of America—and one of them planning to extend across the ocean—showed tonight that commercial aviation has increased its passenger income by one-third in recent weeks.

The reason: Renewed activity in general business and loss of what aviation men call "air anxiety" by the public.

The result: A battle for the new business comparable to that of the railroads several decades ago.

Scrap Many Planes.

In the scramble for passengers, millions of dollars have been spent for new equipment. Fleets of planes are being virtually scrapped in favor of faster ones. One line contemplates spending $4,000,000 for new ships.

Planes carrying ten passengers at three miles a minute in sound-proof cabins have been evolved by United Air Lines. American airways has responded with ships in which passengers can sleep on comfortable berths during night trips between Chicago and the Pacific Coast.

Northwest Airways has ordered a fleet of planes capable of 215 miles an hour with a cruising speed of 180 and announced a plan to compete for business between Chicago and the Pacific Northwest.

In 1933 -- as the plane continued to smash records and change the world by the month -- the *Sunday Review* looked ahead, wondering what the plane of the future would look like.

We should not listen to modern sceptics—they are very few in number—or entertain any doubt as to the future of aerial navigation.

When we compare the Viking ships with our armoured battleships, and the caravels of Christopher Columbus's time with the ocean greyhounds that link the continents of this earth, we should also make comparison between the aeroplanes of twenty years ago and those of to-day.

What will aeroplanes be like when another century has elapsed? By that time our present super-machines will seem clumsy, laughable. We need only look at our modern engines, which weigh between 500 and 600 grammes per horse-power, and remember the steam-engines of last century, which represented over 100 kilos per horse-power.

How right they were.

Two things stick out to me from these two stories.

1. Nothing is obvious from the beginning.

It can take years to go from changing the world to convincing people that you changed the world, and decades before people truly understand how important an invention is.

2. Inventions take incredible imagination. But not even the most imaginative minds can foresee where today's breakthroughs will eventually lead.

The most optimistic car enthusiast could never have guessed that millions of miles of roads would become one of the main features of American scenery, or envisioned the six-lane highway, the Tesla, Uber, airbags, or the daily commute. The most optimistic flyer could never have envisioned the 747, the F-16, the atomic bomb, Southwest Airlines, or flight attendants. Charles Lindbergh was about as optimistic about the plane as they came. But his prediction was, "I think someday we'll have commercial flights between New York and London." The idea of flying 300 people from San Francisco to Singapore with the luxuries of a modern mansion would have seemed like science fiction to him.

Let's say AI, self-driving cars, and bitcoin are the next big breakthroughs. It's almost certain that even the most optimistic visionary has no idea where each will take us, say, 30 or 50 years from now.

But won't it be fun to look back, 50 years from now, at what we were saying about these inventions in today's newspapers?