**Bicycles Script**

Hi. Good afternoon everybody. How are you today? Don’t forget, same as always, if you go to my homepage: stevenaskew.com, you can find the script for this talk and all my other talks, and you can find sample questions, answers, and the MP3, of course. Anyway, I hope you enjoy it.

Today, I'd like to talk to you about bicycles. Now, I use my bicycle a lot. I cycle to and from work every day. I live very close to a streetcar and a subway station, but I cycle as much as possible. I have a seat that goes on the back for my daughter and we cycle a lot. Right now, it's winter and there’s a lot of snow on the ground, but I've bought myself some winter tires, so I can even cycle in weather like this. The tires grip pretty well when it's icy or compacted snow. When it's fresh, loose snow I slip a bit and obviously I don't put my daughter on the back in the snow. So, I cycle a lot. I like my bicycle, and of course I wear a helmet. Safety conscious.

So, let's talk a little bit about the background of bicycles. The word bicycle, the etymology of the word bicycle actually comes from France. 1868 is the very first usage of the word. It was spelt b-y-s-i-c-l-e-s. And even though it was in France, it was in an English newspaper called The Daily News. So, that's where the word comes from.

But, of course, bicycles existed before that, they just weren't called bicycles. The very first bicycle was invented in 1817 by a man called Baron Karl von Drais. Now, this bicycle was not very similar to bicycles you would ride today. It did have two wheels and a seat, but that's where it ended. This bicycle had no pedals. Basically, it was two wheels and a wooden frame. And you would sit in the middle of the wooden frame and you would scoot along, you would run along the ground and you would scoot and it would make it much easier for you to go faster. That was the very first type of bicycle. It was called a velocipede or a draisine. The man who invented it, Karl von Drais: draisine, but those names didn't stick, obviously.

1860, the first bicycle with pedals was invented. Now, in 1860 the pedals were attached directly to the front wheel. So, you would have a seat, and a back wheel and a front wheel of course, and you would sit backwards and you would pedal on the front wheel. Now, of course, if you know anything about bicycles, the bigger the wheel the more rotation you can get and the easier it is to pedal, in theory. So, that's why bicycles like the Penny Farthing were invented. The Penny Farthing was called the Penny Farthing because English money at the time, penny was a large coin and a farthing was a small coin, and a penny farthing has a very large front wheel, 2.5m circumference, I believe, and a very small back wheel. And you would sit up high on the bicycle and you would pedal. And because you could turn a very large wheel, it meant you could go faster. Penny Farthings are obviously very difficult to ride. Now, there were obviously problems with those bicycles. They were very difficult to pedal, they’re very difficult to steer, they’re inefficient and there are a lot of accidents. If you hit something, you're going to fall from quite high up in the sky.

Now, these bicycles, up until this point were basically called boneshakers. They’re called boneshakers because roads at the time were not tarmacked, were not beautiful roads like we have now, they were basically made of cobble stones. That means many many large stones are set into a concrete road. If you're walking, it's ok, if you're on a horse, it’s ok. If you are riding on a bicycle that has a metal frame and wooden wheels with no rubber? You're going to be shaking your bones … whwhwhwhwhwhwh … like that, all the way along. So, they were called boneshakers, and of course they didn't have any brakes. So, you had to stop by putting your feet on the ground, which means if you're on a Penny Farthing, you basically can’t stop.

Ok. 1885, the next big invention. The chain drive was invented. The chain drive meant that pedals no longer had to be connected to either of the wheels. You could put the pedals underneath the person, which meant you had a better balance. They were exactly beneath your center of balance. It also meant you could put more pressure on them and it also meant the front wheel could be free for just steering. So, once you have a train … once you have a chain drive, it becomes much easier to go faster, to go uphill, and to basically pedal. Now, these bicycles still had metal frames, and they still had hard wheels, but these were made of solid rubber, so they were a little bit softer than basically wood, but they're still pretty hard. These bicycles were called the safety bicycle. They didn't have brakes. I'm not sure why they were called that, but, anyway, they were called the safety bicycle. That was 1885.

1888, just three years after that, the most important, probably the second most important invention for the bicycle comes out. John Boyd Dunlop. Maybe you've heard the name Dunlop. I don't know. It's a huge tire company. So, what Dunlop did, he was from Scotland, he actually worked out how to inflate rubber. He worked out how to make thin rubber inner tubes that you could inflate with air to make a cushion. That was a huge invention because it meant these bicycles were no longer boneshakers. You could have a comfortable ride, and you could ride over almost any surface. So, these pneumatic tires were a huge blessing to the bicycle and once they were invented the number of bicycles, the ownership of bicycles, exploded, basically.

So, 1888 the pneumatic tire. Then from 1888 to 1890 we had gears. Gears were invented. Obviously, you need different gears to go up different gradients. Aluminum frames were invented. Hollow frames were invented. And brakes. Brakes were invented. Brakes are very very important. But, since 1890 there have been no real huge leaps in bicycling, in the structure of a bicycle. I mean, the frames have got lighter, the wheels have got thinner and lighter, and bicycles have been improved, but there have been no great leaps, basically. Who knows? Maybe there's one coming in the future. So, that's the background of bicycles.

There are a lot of bikes in the world, obviously. There are about 130 million bikes sold per year, and most of those are made in China, in South Asia as well. The Netherlands has the most bicycles in the world. Number one the Netherlands, number two Denmark, number three Germany. Those are the biggest cycling countries in the world.

Bicycles are very important. Bicycles have had a huge impact on society. When they were invented ... well, not when they were invented, when they were improved, so about 1885, well 1888 ... after the pneumatic tire was invented, the ownership of bicycles exploded, as I said, and what that did is it reduced crowding in cities. After the industrial revolution, people have moved from the rural areas into the cities to work in the factories, and of course there is huge congestion. People living in small, cheap housing to be near their factories, and they're working most of the time. When they’re not working, they’re sleeping. When they have a bicycle, what can they do? Well, they can commute. A person can only walk so far in one or two hours, but they can cycle three or four times further. So, once people have bicycles they can start to move out of the areas around their factory. So, people can start to commute, and you can reduce crowding in the center of cities.

People’s standard of living improves. These people, who are basically living around their factories, could now travel to the countryside. If you have a holiday, you could travel into the countryside, you could walk, you could even go to the seaside if you could cycle that far. So, it improved people's standard of living.

Bicycles relieve poverty. An experiment done in Uganda and Tanzania and Sri Lanka showed that if you give people in poverty a bicycle, you can improve their income by up to 35% because they can travel further, they can go further, they can carry more things, they have more freedom. So, basically, bicycles help people.

Another huge thing was female emancipation. Women didn't get the vote in England until … I don’t know when … 1910? I should research that. That should be another talk. I know Australia was first in the world. That was about 1905, I think. I will have to research that. I apologize. But, a huge part of female emancipation was the introduction of the safety bicycle. Once women had bicycles, and they started to make female groups of cyclists, they could cycle out of the city. They had freedom. They could actually travel. They had freedom which gave them self-reliance, gave them independence, and it was a big push for women to get emancipation basically. And the other huge thing it did for women was the clothes. Before bicycles, women's clothes were long dresses and very stiff and not very useful, not very easy to wear. Once bicycles were invented, clothes were reformed. There was a revolution in clothing, I suppose, and women developed clothes they could wear to ride on bicycles. So, the introduction of the bicycle did a lot for women in the late 1890s.

Manufacturing, of course. Building a bicycle is the stepping stone to many other industries: automobiles, aircraft, ball bearings, lots of things like that. So, companies that started off building bicycles then moved on to many other things. A good example, of course, is Wilbur and Orville Wright. What are they famous for? They're famous for the very first flight, of course. The very first powered flight, I should say. That's another thing I should research. That would be an excellent topic. And how did they start out? Well, they started out with a bicycle shop. They started out building bicycles, and they went from that to flight, of course.

And, I suppose, another one of the most important things at the moment, of course, is the environment. Bicycles reduce oil dependence. I mean, you do have to use oil to make bicycles because they have rubber tires, but a bicycle uses a lot less fuel than a car does, of course, and there are very few emissions, apart from my sweat as I cycle. So, bicycles are very very good for the environment.

Ok. I suppose there are problems with bicycles. There’s road safety, but I would say that has more to do with the cars on the road than the bicycles on the road. If you can have dedicated cycle lanes in a city, without cars stopping on them, it's much safer. Theft, of course. Bicycles are probably one of the most stolen items in the world because they're very easy to resale … resell. They're very easy to resell. And people can make a lot of quick money from those. But, other than that there aren’t really many problems associated with cycling. It's very good for your health, it's very good for the environment. You should cycle.

Anyway, thanks very much for watching this video. If you liked it, click the Like button down here somewhere. Or share it to your friends. Anybody that wants to study English and learn something. I would love it if they watch these. You could subscribe. That's about here, I think, and if you have any ideas, any topics you'd like me to talk about, please put them in the comments below. Thank you. Have a nice day. See you next week.

**Bicycles Questions**

1. How did people move the very first bicycle?

A: By scooting

B: By pedaling

C: By pushing

D: By sailing

2. Why do Penny Farthings have such a big front wheel?

A: Because it was better to be high up, so you could see where you were going

B: Because they looked really good

C: Because the larger the wheel, the faster you can move

D: Because they were the only type of bicycle you could buy

3. Why were early bicycles called boneshakers?

A: Because they were made of bone

B: Because they only had hard wheels

C: Because they were designed to run on cobblestone roads

D: Because they most roads were tarmacked

4. Which of these is not an advantage of a chain drive?

A: You could put more pressure on the peddles.

B: You could steer more easily.

C: You could balance more easily.

D: You could cycle up any kind of gradient.

5. What did John Boyd Dunlop do for the bicycle?

A: He made it smaller

B: He made it more comfortable

C: He made it more expensive

D: He made it easier to stop

6. Which is the correct order for these inventions?

A: gears - drive chain - pneumatic tires

B: pneumatic tires - drive chain - gears

C: drive chain - pneumatic tires - gears

D: gears - pneumatic tires - drive chain

7. Steven says, “So, these pneumatic tires were a huge blessing to the bicycle and once they were invented the number of bicycles, the ownership of bicycles, exploded, basically.” Which of these words is closest in meaning to “exploded”?

A: contradicted

B: appeared

C: exaggerated

D: proliferated

8. Bicycles allowed people living in cities to commute. What positive effect did this have?

A: It eased the crowding in the cities.

B: It raised people’s income 35%

C: It let people go to the countryside in their holidays.

D: It made people move to the cities.

9. Which of these was not a positive effect of bicycles for women in the late 1800s?

A: They had self-reliance.

B: Their clothing was reformed.

C: The developed more independence.

D: They got the right to vote.

10. Why are bicycles a very commonly stolen item?

A: They are very easy to resell.

B: Thieves need to cycle as well.

C: They are very bright and colorful.

D: They can raise people’s wealth by 35%

11. Steven talks about how bicycles helped with the crowding in cities that had taken place around the industrial revolution.

i) Explain why this crowding occurred.

ii) Mention two ways that the industrial revolution drastically changed society?

12. What incentives could governments make to encourage more people to use bicycles?

13. Most bicycles are made in China and South Asia. Explain why this is.

14. How does the country you live in treat cyclists?

15. Cars vs bicycles. Write three advantages and disadvantages of each.

**Bicycles Answers**

1. A 2. C 3. B 4. D 5. B 6. C 7. D 8. A 9. D 10. A

11. Steven talks about how bicycles helped with the crowding in cities that had taken place around the industrial revolution.

i) Explain why this crowding occurred.

As Steven says in his talk, when the industrial revolution happened, people moved into the cities to find work in the new factories. The owners of the factories built large quantities of small, cheap housing around their factories for the workers to live in. As the number of people moving in to the cities increased, these areas became more and more crowded.

ii) Mention two ways that the industrial revolution drastically changed society?

There were many ways that the industrial revolution changed society. Here are two of them.

It broke families apart. Before the industrial revolution families would live on and farm the same piece of land for generations. You were born, grew up, farmed and died in the same small community. Four or five generations of people would live in the same house. Once the industrial revolution happened families broke up as the young people moved to the cities for work.

Another way it changed society was the way in which people earned their income. When you are a farmer, you are totally dependent on your crop. You have to live on the money you can make from what you can grow and sell. If you have a bad season then you will starve, unless your family can help you. After the industrial revolution, people earned an hourly wage. It might not have been high, but it was constant. You got paid no matter the weather.

12. What incentives could governments make to encourage more people to use bicycles?

People respond best to financial incentives, so I would like to talk about tax breaks, subsidized bicycles and reduced health insurance costs.

Tax breaks for people who give up their cars and cycle would be an excellent incentive, but possibly a little difficult to enforce. Anybody could buy a bicycle and claim to be cycling for the tax breaks while not giving up their car. To prevent this, bicycles could be fitted with GPS distance trackers. Some people might complain about the privacy issues, but it would ensure that the people who bought bicycles actually used them.

Subsidized bicycles is a no brainer to me. If you make good bicycles cheaper, then more people are obviously going to buy them. If governments cover 50% or more of the cost of the bicycle, more people would cycle. This scheme could also easily be abused. To prevent this, the 50% subsidy would be rebated after the bicycle had traveled a certain distance.

Cycling is demonstrably good for your health, so people who cycle will need less health care. To reward them for this, their health care premiums will be reduced relative to the distance they cycle.

These ideas might be difficult to put into practice, but they would encourage more people to cycle.

13. Most bicycles are made in China and South Asia. Explain why this is.

They are made in these countries for the obvious reason that it is cheaper. You can make the same quality of bicycle in any country, but if you manufacture them in America, you need to pay the workers far more than you do if you manufacture them in China. This is because the overall cost of living in China is lower than in America and workers need a lower wage. This is, however, changing. One of the side effects of most of the world’s goods being manufactured in China is that the cost of living is slowly rising. It has already started to reach a point where manufacturing companies are starting to look for other, cheaper countries, and China may soon be at the point America is in.

14. How does the country you live in treat cyclists?

I live in Japan and many people cycle. The country is extremely lenient of bicycles because such a large percentage of the population use them on a daily basis. However, despite that, there are very few dedicated cycle lanes, traffic safety is not taught, and many cyclists do not obey the laws of the road. Recently, after a spate of pedestrians being knocked down and killed by cyclists, the laws relating to cyclists have been toughened. Cyclists are not allowed to cycle on a sidewalk that is narrower than three meters. They must stop for traffic lights. They must not use their phones while riding and they must not use headphones. These laws are, though, rarely enforced. Many cyclists are afraid to cycle in the road and a project of cycle lane construction would improve the overall situation. police prosecution of cars that stop on these cycle lanes would also be necessary.

15. Cars vs bicycles. Write three advantages and disadvantages of each.

As it is probably the easier of the two, let’s look at cars first. Advantages. Cars are fast, comfortable and large enough to carry many people. Cars can obviously travel much faster than bicycles and you can reach your destination quickly and with no effort. You can also sit on luxuriously comfortable seats and listen to your music whilst being protected from the elements. The majority of cars can also seat five or more people. Disadvantages. Cars release dangerous emissions, they are expensive to run, there is large scale congestion on the roads. Modern cars are becoming cleaner, but even these cars release harmful gasses into the atmosphere. Cars are a large percentage of the cause of climate change. Cars are very expensive to run. You must pay for insurance, parking, fuel, repairs, tax and the price of the car. All of this adds up very quickly. And, with the increasing ownership of cars, there is more road congestion. Most roads were designed before the number of cars reached its current levels. They are not designed to accommodate so many vehicles and traffic jams are becoming very common.

Bicycles. Advantages. Bicycles are healthy, cheap and convenient. If you cycle to work for 20 minutes a day, you will raise your heartrate and get a valuable workout. You will lower your cholesterol, improve the condition of your heart and lower your chance of developing diabetes. Cycling will help you live longer. Bicycles are obviously far cheaper than cars. Once you have purchased the bicycle, there are not extra costs. Perhaps a few dollars to fix the bicycle every now and again. And, bicycles are obviously more convenient than cars. You can go anywhere, stop anywhere and they never run out of fuel. Disadvantages. You are exposed to the elements, there is a safety risk and they are very easily stolen. Obviously, when you are cycling, you have no protection from the wind or the rain. A car gives you a roof and windows, a bicycle gives you nothing. You are also not protected from other cars on a bicycle. Cars have reinforced frames, crumple zones and airbags. Bicycles have nothing. You can wear a helmet, but if you are hit by a car, you are going to come of worse. And, as Steven mentioned in his talk, bicycles are a very commonly stolen item. Cars are, of course, stolen, but they are much harder to steal and the penalties for the theft are higher. The penalty for stealing a bicycle is akin to that of stealing money or an iPhone. We give much more importance to our cars, because they are an extension of us, but, so are bicycles.