**Paper - Script**

Hi. Good afternoon. It's good to see you. Today, I want to try and talk to you for five minutes about paper. Alright, let’s see how I go. Here we go. Three. Two. One. Go.

Obviously, all of you write down some things during the day. And I'm sure you all write it down on paper. Most of you, anyway. Where does paper come from? Well, as a civilization, once we developed a system of writing, we had to write down on something, of course. In the very beginning, people chiseled shapes and words into rocks. And then, of course, you move from rocks to wood. You can carve words into wood. But, of course, wood tablets are not very portable, and once you've carved it, you can't reuse them. Then we have wax tablets. Wax you can actually reuse. You can press it flat, you can write again. But, of course, wax tablets are not very portable either. Some civilizations even use gold. Gold sheets they carved … they chiseled words into the gold sheets. Now, all these ideas are fine for writing on, but they're not very portable and most of them are not reusable.

Paper, of course, comes from Egypt. Well, not of course. Egypt invented paper. Papyrus in 2560 BC. About four and a half thousand years ago. That type of paper, papyrus comes from reeds. What they would do is, they would take the reeds, they would pull them apart into flat layers. They would weave them together and they would basically press them until they stuck together. And that was original paper. You could then write on it.

However, that paper is not connected to modern paper. Modern paper was invented in China in about 50 AD. What the Chinese did is, they took silk, or bamboo, or hemp, or anything with fibers, and they boiled it. Once it was boiled, they took out the fibers, they gathered them together, they placed them on a large screen and basically, they let them dry, and that stuck together. And that is modern paper. And you could then write on it. If you go to China or Japan, you can see people making paper that way even today. Handmade paper. And, once the Chinese had paper of course, they then invented toilet paper and they had paper money.

Modern paper. Well, paper goes from China all over the world. Heads to Japan, heads through Asia, comes across into Europe, Germany and it lands in England by about 1494. That's much more recent than I thought. I thought paper had been around for a long time, but it's actually more recent than you expect. Back then, in 1494, paper was still made by hand and it was made the same way. People would take clothes, rags, anything they could find. They would boil it down, take out the fibers, and they would make paper.

In 1799, with the industrial revolution the construction of … the manufacture of paper was industrialized. Paper was then made on a larger scale. This brought down the price of paper. However, paper was still made from rags and from old things lying around, so it was still difficult to make.

In 1830, somebody realized you could take the fibers from wood. If you cut down a tree, and if you pulp the wood, you can get a lot more fibers out and you could make a lot more paper more easily. So, in 1830, trees … wood starts to be used for the manufacturing of paper. And then, a short while after that, somebody realizes that if you bleach the paper white, it's much easier to write on.

So, by about 1830 we have modern paper. We have mass produced, cheap, modern paper made from wood. Now, this of course, changed society quite considerably. I mean, when you have cheap paper, what can you have? You can have books, you can have school books, you can have newspapers, you can have diaries, people can write letters to each other. Basically, the poor, the working class, can become literate. So, the invention of paper did a tremendous amount for the literacy rates in Europe and in England. Society was … was changed for the better, of course.

Although, of course, there are paper … There are problems associated with paper. 35% of all the trees cut down in the world are cut down for paper. 40% of all trash thrown away across the world is paper trash. So, we have lots of problems. We do have good recycling programs but, of course, they're not good enough.

So, what is the way of the future? Well a lot of countries, a lot of businesses are trying to become paperless. They’re trying to use tablets. Interestingly enough, the iph … the iPad, the tablet, is called a tablet because it's similar to an original rock … er … to an original wood tablet. People used to write on a wooden tablet, now they write on an electronic tablet.

So, basically, we've gone online. I buy all my books as Kindle downloads now. I buy them from Amazon on my Kindle and I read them on that. I don't actually buy books. A lot of people say they like the feel of paper. A lot of people say that paper books won't die out. I personally think they will. I don't think they'll die out for environmental reasons. I mean, obviously if we move from online … if we move from paper books to online books, we're doing a lot for the environment: we're not cutting down all these trees. However, I don't think the reasons why we will change to electronic books will be environmental. I think, in the end it will be purely profit. An online file is much cheaper than a book. It doesn't cost anything to distribute an online book. It costs a lot of money to make an actual paper book. So, I think we will move in …. aaaaaargh. I think we will move entirely to a paperless society in the near future, but I think it will be because of financial reasons not because of environmental reasons. In the end, businesses are businesses. I think we will still have paper books, and people like them, but I think the majority of our literature in the future will be online.

I talk too much. I'm sorry. That was interesting. Thank you for watching. If you want to read it, you can click in the link down here in the description. You can find the script, questions, answers, down there. You could read it online. If you want to print it out on paper, feel free to do that. That's entirely your choice. The MP3 link is also down there as well. If you liked this, click “like”. That’s down here somewhere. If you want to subscribe, please subscribe. That button’s over here. It looks something like my head. If you subscribe, you can get these talks whenever I make them. If you liked it, if you think someone else would like it, or find it useful, please share it with them. Thank you. Have a nice day.

**Paper – Questions**

1. What is the problem with writing on wood?

A: It’s too hard.

B: It’s too difficult to make.

C: It’s too expensive.

D: It’s not reusable.

2. How are the reed layers set out when making papyrus?

A: They are laid next to each other.

B: The are woven.

C: They are laid on top of each other.

D: They are tied.

3. Which of these was not something the Chinese used to make paper?

A: Silk

B: Wood

C: Bamboo

D: Hemp

4. What helped bring down the price of paper in England in the late 18th century?

A: Industrialization

B: Modernization

C: Revolutionization

D: Theorization

5. What affected literacy rates in Europe?

A: Chinese paper

B: Handmade paper

C: White paper

D: Cheap paper

6. Steven says, “I think, in the end it will be purely profit.” Which of these words is closest in meaning to “purely”?

A: Partly

B: Incompletely

C: Entirely

D: Superficially

7. How much paper do you estimate that you use in a day, a month, a year?

8. Steven says, “We have mass produced, cheap, modern paper made from wood. Now, this of course, changed society quite considerably.” He talks about literacy rates. Explain two other ways in which the invention of cheap paper could have changed society.

9. Do you agree that paper will die out in the near future?

10. Many countries are trying to become paperless. What advantages does paper have over electronic files?

11. If society becomes paperless, will we lose the ability to write?

**Paper – Answers**

1. D 2. B 3. B 4. A 5. D 6. C

7. How much paper do you estimate that you use in a day, a month, a year?

I am a teacher in a Japanese high school. Japan is about as far from a paperless society as you can get. I teach about 200 students across several different classes. I give them handouts, homeworks, tests and exams. We also have meetings where I give and receive copious amounts of paper. How much do I use a year? I honestly can’t say. 4 sets of exams (1000 pagesx4), weekly meetings (20 sheets x45), weekly newspaper (2 sheets x45), plus lots of other things. Probably 6,000 sheets a year (and that’s a conservative estimate. There are 50 teachers in this school so 300,000 sheets a year. Wow!

8. Steven says, “We have mass produced, cheap, modern paper made from wood. Now, this of course, changed society quite considerably.” He talks about literacy rates. Explain two other ways in which the invention of cheap paper could have changed society.

 Increasing the rate of literacy would have had an enormous impact on society that would have affected so many different areas. Increasing literacy increases wealth, possibilities, can change where people live and so many other things that it is difficult to think of other ways in which paper would have changed society. I will do my best.

 More flexible record keeping. The introduction of mass produced cheap paper allowed for comprehensive record keeping. In the very beginning of civilization, writing systems were developed not for passing on history and stories, but for the keeping of stores and for business. People needed to know how much they had sold, how much they had left to sell, and how much money they had made. Always business. Records have always been kept, but when you have to keep them on wooden tablets, or when it costs you a lot of money to buy the paper to write them on, you can only record the most valuable things. Once paper becomes cheap, people can finally record everything. So, the introduction of cheap paper changed society by helping people to record the minutiae of daily life.

Communication. People have written letters since the invention of paper, but cheap paper allows people and groups that are far apart to communicate often. This sudden ability makes the world smaller. Countries can communicate more easily with their armies. Empires can be more easily controlled. News can be sent around the world. Families living in different countries can stay in touch. Obviously, paper and being literate go hand in hand here, for without the one you cannot have the other, but the invention of cheap paper affected not just local society, but global society.

9. Do you agree that paper will die out in the near future?

I do agree, but I don’t think it will be as quick as Steven does. When Steven talks about paper, he is lumping books and general paper together. I think these are two separate issues.

Paper, in the workplace and in the house will gradually disappear. But, that will be over many years. The use of paper is just too deeply entrenched in us. We have a subconscious mistrust of electronic files, believing that they can be hacked and doctored far more easily than paper. Electronic files can disappear while paper can lie around for centuries. Electronic devices change. We can no longer read files on floppy disks yet paper never goes out of date. Paper will gradually disappear, because we are making a conscious effort to replace it, but we will need far more reliable methods of writing and keeping data than we currently have. That may take decades, maybe even centuries.

Books are a different matter. Books will disappear far sooner than paper itself, whether people want them to or not. Ebooks (Kindle, for example) are cheaper than paper books to produce and to transmit. Even though you still have editing costs, payment to the author and marketing costs, ebooks are cheaper than paper books, but not tremendously. They also don’t feel the same. However, they are more convenient, and Amazon is aggressively marketing them. You can carry hundreds of books in one small device that is small and highly portable where you would struggle to carry more than two or three large books. Also, Amazon can make a lot of money from ebooks. They have mostly captured the market with their Kindle and they lower the costs of ebooks to encourage people to become loyal customers. Soon, publishers of real book won’t be able to compete, and they will stop making them. Books will disappear.

10. Many countries are trying to become paperless. What advantages does paper have over electronic files?

 Paper has a lot of advantages over electronic files. I have already mentioned a few of them. Paper doesn’t go out of date. You can read paper from centuries ago whereas you can’t read data from 15 years ago. Paper is more difficult to lose than a file. It is easier to keep paper secure. Paper feels more trustworthy. You can shuffle through papers more easily than you can electronic files. When you destroy paper, you know that it is gone. You can see paper. You know that it is real. You can visualize how much work you have done more easily. You can write notes on paper or edit it easily. Large quantities of paper are difficult to steal.

11. If society becomes paperless, will we lose the ability to write?

 That is an interesting question. Logically, the answer would be yes. Even today, we are moving from typing to voice recognition. You don’t write, you just speak. In theory, in the future, you would not need to write anything, you would just speak to whatever device you were using. But, that doesn’t mean that the ability to write wouldn’t be taught. We would still need to be able to read, and teaching someone to read goes hand in hand with teaching them to write. I believe we would still learn how to write, but most of us wouldn’t use the skill for much outside of school.