The Railroad Journey and the Industrial Revolution: Crash Course World History 214

Crash Course: World History
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John: Hi, I'm John Green; this is Crash Course World History, and today, we are returning to a subject that could have a Crash Course series all of its own: the Industrial Revolution.

Me-From-the-Past: Mr. Green, Mr. Green! Are you going to do a whole series on the Industrial Revolution? Because that actually sounds really boring.

John: Yeah, Me-From-the-Past, no. I - I'm a little bit busy. I got this movie that's about to film, so yeah, no. But, uh, we are going to talk about, like, a specific and essential slice of Industrial Revolution that also like pleases my four-year old self a lot: railroads!

Chugga chugga chugga, choo-choo!

We're going to talk about a small book by Wolfgang Schivelbusch called "The Railway Journey."

So in this Crash Course World History series, we're talking a lot about a lot of different world history books so that we can approach subjects from a variety of angles.

We want to introduce you to how exciting history can be and also how unsettled it is, how many arguments there still are.

So to be clear I'm not saying I agree with everything in this book. It's one interpretation of a series of events. But it contains a ton of interesting ideas, and it's one of those books that makes you think differently about the world.

And it's vitally important that we think about the role technology plays in our lives, including the technology of railroads.

(Intro)

(1:12) So railroads were these big loud machines that people hadn't seen before, which makes them a pretty good metaphor for industrialization. Also, since not everyone worked in factories, railways were one of the few places that both middle- and upper-class people came face-to-face with industrial machinery.

You know, if you were a factory worker that stuff was around you all day every day slowly killing your soul, but if you were, say, a mortgage broker, your work life hadn't changed. It's not like you had a computer.

But the presence of railroads reminded you that you were in a different world from that of your parents or grandparents. It wasn't just locomotion though; the railway itself changed the idea of an industrial machine to include its surrounding infrastructure. Right?

You needed rails and these huge engines. You needed time tables and organization. That encompassed everything that industrialization was about.

And since railways changed the lives of middle- and upper-class people, who tend to write a lot, we know a lot about them. And the change was definitely seen as radical. For instance, the phrase "annihilation of time and space" was a pretty popular one when talking about railways.

This wasn't just a fancy way of talking about how railways sped up travel, but also the way that the railroad destroyed traditional relationships with nature.

I mean, sometimes nature was literally annihilated, as when tunnels were cut through hills and depressions were graded to make the railroad as straight as possible, as if drawn with a ruler. But railroads also shaped space and time in a manner totally unprecedented in human history by, for instance, speeding up travel times, which shrunk the world. And then they expanded space by creating suburbs and new towns. In a positive development for 99% of the population, railroads changed space, too, by opening up previously inaccessible like, vacation spots of the wealthy.

Then the wealthy migrated further away to places only accessible by air travel, like, I don't know, Ibiza, but now Ibiza is full of euro-trash because of inexpensive airlines. Where will the 1% vacation?! Poor rich people they had to go the Hamptons, which aren't even that nice, they're just really expensive.

And there's the fact that railroads literally changed time. Or at least created the standardization of time. Like before railroads, time in London was 4 minutes ahead of Reading and 14 minutes ahead of time in Bridgwater. Then in 1847, the Railway Clearing House, an organization established to regulate rail travel, established Greenwich Mean Times as the standard time on all rail lines and in 1880, it became the general standard time in England.

So to be clear, time as you know it is about as old as the oldest living person in the world.

But the most obvious way railroads changed things was travel. Until railroads, all travel was powered by muscles, either animal or human. So we had a sense of distance as defined by fatigue. Like when your horse died, you had gone a long way. Or like your horse sprained a leg going down a hill and you had to shoot it.

Point being for 250,000 years, all power was muscle power. And unless you could like, ride a cheetah, you weren't gonna go faster than about 20 mph. So babies could go really fast, because they could ride cheetahs, but adults there's no way. Cheetahs weigh like 20 pounds.

As Thomas De Quincy put it; "When we are traveling by stage-coach at the rate of eight or ten miles an hour, we can understand the nature of the force which sets the vehicle in motion... and in the course of a day's journey we can appreciate the enormous succession of efforts required to transport a loaded vehicle from London to a distant town."

Although to be fair, De Quincy's ideas about enormous effort may have been a bit skewed as he also wrote *Confessions of an Opium-Eater*.

Anyway, people were so comfortable with horses that some even argued that horsepower was superior to mechanical locomotion because horses relied more on renewable and easily obtained fuel. By the way, as you may see in comments, there is still a debate about whether horsepower or railroads are more carbon efficient.

Anyway, the romantics at the time saw railroad travel as a quote "Loss of a communicative relationship between man and nature." And some also saw the old technology horses as having like, more soul.

Mechanical travel was generally seen as a definite economic win, since it rendered all transportation calculable and economists love to calculate.

Railroads also changed the way that we looked at the world. Like, literally through a window with nature being this blur. And you can argue that like watching the world go by through a static window kinda prepared people for motion pictures and television, where we stare at a screen that doesn't move and watch a world that does.

Now, these noisy coal-powered trains affected all the senses but especially vision. As Victor Hugo described it in 1837, "The flowers

by the side of the road are no longer flowers but fleck, or rather streaks of red and white; there are no longer any points, everything becomes a streak."

So, many people experienced this landscape as a monotonous blur, but for others it was something new and exciting. For Benjamin Gas to know the constantly changing view was thrilling. "In quick succession it presents the astonished traveler with happy scenes, sad scenes, burlesque interludes, brilliant fireworks, all visions that disappear as soon as they are seen."

That sounds like a great movie. All I see when I look out the train window is the infinite abyss of meaninglessness and then I plug my phone and open Flappy Bird and everything's okay again.

And railroad travel also changed human behavior. Okay, let's go to the Thought Bubble.

Since looking at the landscape was no longer the same experience and according to the medical journal The Lancet, "The rapidity and variety of the impressions necessarily fatigue both the eye and the brain," many people turn reading books on railroads. For starters, reading was a way for upper class passengers to avoid having to talk with each other. (6:27)

European first and second class rail cars were designed to mimic stage coaches with passengers facing each other. Now, in pre-railroad travel you knew you were going to be stuck with whoever was in your stagecoach, so it was important to try to be nice and strike up a conversation. But the short duration of railroad journeys discouraged the formation of rapport between travelers, changing our habits and turning reading on the train into a necessity. Rail travel also brought new fears, like when traveling at the speed of a cannon ball it was hard to overcome ones terror of a possible derailment.

As Thomas Creevey put it, "It is really flying and it is impossible to divest yourself of the notion of instant death to all upon the least accident happening." So *that's* why I'm afraid of flying.

And to be fair, railway accidents were common enough that physicians began to document cases of railway spine, a condition suffered by people who'd come through railway accidents with complaints of pain but few or no signs of physical injury. By the end of the 1880s however, railway spine gave way as a diagnosis to traumatic neurosis, reflecting new ideas in psychology. Eventually, pathological explanations for what looks like a lot like nervous shock slipped away and only the psychological ones were left. (7:39)

Thanks, Thought Bubble. So new technologies often bring new anxieties because change is terrifying. Remember how the internet was going to bring an end to reading books? Remember how "e-learning" was going to replace classrooms and there were going to be all of these "e-teachers" who would replace your real teachers? But yeah, no. It turns out that real life teachers are pretty great.

Like Heinrich Heine wrote that railroads produced, "tremendous foreboding such as we always feel when there comes an enormous, an unheard-of event whose consequences are imponderable and incalculable." Fortunately, our new industrial worldview associated change with progress.

Like, this notion that humans move forward, that children will have a better life than their parents did? That's new.

That is... oh! It's time for the Open Letter! But first, let's see what's in the globe today. Oh no, it's change! I hate change.

An Open Letter to progress. One of the reasons I think we're afraid of change is that change doesn't really mean progress. For the vast majority of human history, the lives of children could be much worse than the lives of their parents. It depended on disease and weather and kings. Mostly on disease and weather. There was no idea that moving forward also meant moving up. And I would argue that certainly innovation has given us much to be grateful for, but there's something to a reluctance to change. I love you, progress, and you have given me much to be grateful for. But a gentle reminder: change doesn't always mean progress. Best wishes, John Green.

So as Schivelbusch puts it: "New modes of behavior and perception enabled the traveler to lose the fear that he formerly felt toward the new conveyance. The sinister aspect of the machinery that first was so evident and frightening gradually disappeared and with this disappearance, fear waned and was replaced by a feeling of security based on familiarity." Huh. That sounds precisely like my relationship with a phone that always knows where I am.

New technologies often change the way people live and perceive the world. Like, one example would be the printing press. It made knowledge and information available as never before, but it only really affected a small segment of the population, at least initially.

Industrialization was different in that it had a profound affect on large numbers of people in a very short time. And since the dawn of industrialization, the pace of this change and the enormity of its impact has only increased like, well, like a speeding train, I guess. Except it's like a train that gets faster and faster until it reaches the speed of light. Oh my gosh, what a wonderful idea. Somebody call Elon Musk.

So for most of us, the internet is a technology very much like the railroad. Like the railroad, the internet in its earliest stages was both frightening to detractors and exhilarating to its boosters. And like the railroads, it has shrunk the world, enabling me to communicate with you via, you know, the tubes... I don't really know how the internet works.

And it's also changed our perception of time. Think about how much sooner you expect a response to an email or a text message versus a letter or even a phone call. Think about the fact that you can order a phone from China and have it arrive at your door in a week and that still feels like kind of a long time.

In the age of the railroads, to get a phone, which didn't exist, from China to Indianapolis would have taken months. To get that same non-existent phone from China to Indianapolis in 1700 would have taken more than a year. And then you turn it on and there's not even a cell network. You're like, "This is essentially just a brick. I waited more than a year and I can't do anything with it!" And once the battery dies, you're going to go to plug it in, and oh right! There's no freakin electricity!

So yeah, the world is different. Now, like railroads, there's plenty of nostalgia about the time before the internet, when people supposedly consumed less and talked to each other more because they weren't constantly on their phones. But if railroad reading is any indication, we've been looking for ways to use technology to avoid interacting with each other in real life for a long time.

And we shouldn't forget that railroads made travel easier and opened up new vistas and made goods less expensive and brought people closer together. And they also helped create the idea of nostalgia. I mean, without industrial production, the nostalgia for pre-industrial methods of travel and manufacture couldn't exist.

One of the best things about books like "The Railway Journey" is that they help us to draw parallels between the past and present

and get us to focus on overlooked aspects of history, like what it meant for people to ride on trains for the first time.

Now, our study of history shouldn't be focused too much on what we in the present can learn from the past. But trying to glimpse innovation and change as those who lived through it saw it? Well, I think that can be very useful to those of us living through a new technological revolution.

Thanks for watching. I'll see you next week.

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