

INTRODUCTION |

The Civil War is over. Survivors head out across the frontier.

A vast wilderness separates East and West.

Veterans become railway men... cowboys... settlers.

Conquering nature, they'll unite the continent.

Their mission: to tame the Wild West.

We are pioneers... and trailblazers. We fight for freedom.

We transform our dreams into the truth. Our struggles will become a nation.

EPISODE 6: HEARTLAND |

1865. The Great Plains. Where 30 million buffalo roam.

Vast, untouched, a wilderness dividing America.

Crossing the continent takes six months. 20,000 die on wagon trains.

By ship, it's an 18,000-mile journey around South America.

To conquer the wilderness and unite East and West, President Lincoln green-lights a transcontinental railroad, 2,000 miles long.

It will transform the nation triggering a tidal wave of settlement across the Great Plains.

Railroads were vital to the expansion of America.

This technology connects people in a way that never before in the history of mankind has there been that kind of connection.

America's ancient wilderness meets modern American steel and muscle.

An army of hammer-wielding men. Irish immigrants.

Civil War vets. Railway men. Their mission: to tame nature itself.

The biggest obstacle heading east from California, a 12,000-foot wall of granite: the Sierra Nevada.

With the Pacific of North America plates alive, billions of tons of ancient rock rise up crumpling like tinfoil.

Over the last 4 million years, the Sierra Nevada Mountains climb more than 2 miles high.

They're still growing: 13 feet in 1,000 years. One day they could rival the Himalayas.

Only a mad man could dream of running a railroad across mountains like this.

They don't call him "Crazy Judah" for nothing. Obsessed with the railroad, he sees a way through.

Come on down, boys. Theodore Judah makes 23 trips into the peaks. And peg that, boys.

Plotting a path across ridges and through mountain summits, building it will be the engineering challenge of the century. Yup, let's mark that. This is the most magnificent project ever conceived.

An enterprise more important to the people of the United States than any other.

The railroad will be built, and I will have something to do with it.

Americans love someone who can go through seemingly difficult or impossible things, and make their dreams happen.

With Judah's route approved, two companies begin work.

The Union Pacific starts from Omaha in the east; the Central Pacific from Sacramento in the west.

They'll meet in Utah.

It'll cost over \$2 billion in modern money, but the government doesn't have enough cash.

It pays the companies in federal land.

They must finish in 15 years or lose everything.

We have learned in this country; you don't get anywhere in life if you don't take risks.

I think America is by far the shining light of the world in so many ways because we are risk takers.

Paid by the mile, adding curve adds profit.

Corrupt investors built the railroad for every cent they can, a nine-mile curve means an extra 120 acres of federal land, and they'll end up owning an area the size of Texas.

First they must conquer the Donner Pass. 7,500 feet up, the highest Judah's route.

Cursed by 30 feet of snow each winter. Avalanches, tragedy.

Here just 20 years earlier, the Donner Party became trapped in the snow and ate each other.

Now Judah's railroad cuts right through the mountain, 1,649 feet of rock must be excavated, the longest tunnel on the route.

Chinese laborers dig day and night.

It's easier to ship workers from China than to get Americans across the continent.

The railroad magnets said, "The Chinese built a great wall, didn't they? Let's bring the Chinese in to do this work.

"Over 10, 000 Chinese laborers earn less and do the deadliest jobs.

The transcontinental railroad was built by Chinese workers brought over specifically to work on the railroad, and they were considered somewhere in between human and animal.

They were not expected to survive.

They were expected to come here and work and die.

7, 000 miles from home, 17-year-old Hung Leiwo swaps a life in poverty in Canton for a back-breaking work on the railroad gang.

Hung Leiwo must cut through granite so tough, a rock the size of a big toe will support 50 tons of locomotive.

Progress slows to inches a day. To breakthrough, they need nitroglycerin, but transporting it is banned when 15 men are blown to pieces.

In a mobile lab, Scottish chemist James Houghton mixes it on the spot.

Nitroglycerin is 13 times more powerful than gun powder.

So unstable...any physical shock, and it will explode in his hand.

Houghton gets hazard pay. \$4,000 a month in modern money.

After three months in the mountains, he turns to drink, leaving the nitro to Chinese men like Hung Leiwo, Irish crews won't touch it.

Detonation creates temperatures of 9,000 degrees. It's hot as the surface of the sun.

An estimated 1,500 Chinese die in explosions and rock slides. Hung Leiwo survives.

His son will be the first Chinese-American to graduate an engineering from the University of California at Berkeley.

Once through the mountains, track laying accelerates from 10 inches to 6 miles a day.

Each spike is struck 3 times. 10 spikes to a rail. 400 rails a mile.

21 Million hammer swings complete the railroad.

May 10th, 1869. A one-word message arrives by telegraph: "Done."

A six-month journey across the continent is cut to 6 days.

The folks would once had to risk everything in a wagon train. That is eliminated.

You can now get on the railroad and travel from Boston to Sacramento.

That's a revolution.

The Internet of the area, the transcontinental railroad, changes everything it touches, triggering a mass migration to the Great Plains.

The Great Plains is conquered by steel and steam.

The transcontinental railroad threads a thin line of civilization through the wilderness. People follow.

In just one year, 40, 000 settlers move to Nebraska, fanning out across the frontier in wagon trains.

When in the mid-19th century to the late 19th century, they went out and settled some hostile territory known to mankind.

The Great Plain where I grew up. These were true pioneers.

The government accelerates the process with the greatest land giveaway in history.

Anyone with a \$10 filing fee can claim free land.

A quarter are single women and ex-slaves.

When you see the desperate scramble in these rickety wagon trains, you realize that promise of America was land.

These are people who never in a million years would be able to own land in New York.

Eventually 10% of the United States will be given away under the Homestead Act.

I'm not going back to Indiana to rent until I bust entirely and have to walk back.

Uriah Oblinger, Civil War vet claims his 160 acres in Nebraska. There's a catch.

110 degree summers spark prairie fires. Trees can't survive the drought on the plains.

There's so little rain, nothing grows here but grass.

Without lumber to build houses, the new inhabitants live in mud huts.

Built of sod, cut from the plains. Uriah dismantles his wagon to make doors and windows.

They often had insects. They invited snakes.

It was pretty much like living in a burrow in the ground. I think the pioneers did have it hard.

They conserved. They were frugal. One dress lasted a long long time.

For Uriah's wife Mattie, it's a price worth paying.

I expect you think we live miserable because we are in a sod house.

But I'll tell you, in solid earnest, I never enjoyed myself better.

Every liquid we strike is for ourselves and not half of someone else's.

The devout Oblingers face daily tests of their faith.

With no mountains to stop the wind, the Great Plains are a breeding ground for massive thunder storms. The most objection I have to the weather here is the wind.

There's a great deal of it during the winter and spring, and being nothing to break it, one feels it more.

"Not too far, honey." The Oblingers live in tornado alley.

More twisters in this region than anywhere else on earth.

"Honey!" Over 400 touch down every year Tell the folks they never seen a storm in Indiana, only playthings.

200 miles an hour winds spin into a vortex, sucking in air and anything not bolted down.

In 1930, a man is carried a mile across the Kansas, fish and toads rain from the sky.

The Oblingers hunker down in their heavy sod house, clinging to their new found independence.

I think that we're a nation of people descended from tough old coots and tough old broads.

And I say that with great admiration.

They just wanted to control their own future, and to have children who could control their own destiny, tornadoes aren't the only biblical challenge the Oblingers face.

By the river of Rockies, the end of the world, it's brewing.

A prehistoric species emerges to battle for the Great Plains.

Locusts. After devouring the local vegetation, they released pheromones that signal it's time to move on.

They grow long wings. These worms head east on the wind.

They join up over the Great Plains and become a plague.

In 1874, they devour half of the crops in the West. Three trillion locusts.

Half a mile high, 100 miles wide. 1,000 miles long, as big as Colorado. They block out the sun.

Agricultural Armageddon. To men like Uriah, the locust are the wrath of God.

By 1892, half the population of western Nebraska goes east. Uriah stays.

You have to be brave in order to achieve in this country...because nothing is set right there for you.

You have to take chances. And I think bravery and fear are the same things.

It's just a matter of how you react to that same feeling.

Those who stick it out get lucky. Within 30 years, the locust is extinct.

It's breeding grounds in the Rockies plowed over by settlers like Uriah.

In 10 years, the Great Plains become the bread basket of the country.

For the first time, America can feed itself.

Today 50 million tons of wheat is farmed each year, but trees are still scarce, and to build towns settlers need wood.

In Michigan, Wisconsin and Minnesota, loggers harvest over 50 million acres of trees.

Green gold. A magnet for Scandinavian woodsmen.

Between 1825 and 1925, a third of Norway's entire population comes to America...including Nils Haugen.

The pay was \$3 a day. You had to have a good pair of driving boots well caulked to be able to keep on top of the logs.

There's millions of dollars at stake. If the flow of logs stops, towns can't be built.

Log jams. River man's ruin.

In 1886, pines to build 20,000 homes get stopped on the St. Croix River.

150 Million feet of wood.

Remove the right log, and the rest will explode downstream. River-men die clearing the obstructions like this.

In 1892, 2 billion feet of lumber will be cut in Wisconsin alone.

The railroad feeds lumber into the West's construction boom.

Towns are built so fast, there's no time to name streets. They're given letters and numbers.

The Great Plains is also home to the most numerous species of large wild mammal on earth.

30 million buffalo, herds up to 25 miles long, race to summer breeding grounds.

On a collision course with the modern world.

The railroad brings a new kind of hunter to the Great Plains. Driven by profit, fresh from the carnage of the Civil War.

Two million rifles are in circulation. Over a million veterans trained to use them have a new target in their sights.

Frank Mayer, Civil War vet. Buffalo hunter. I had nothing to look forward to in civilization. I was crazy about guns.

Mayer tracks 2,000-pound buffalo, easily capable of crushing a man. He picks them off from 200 yards.

If you could kill them, what they brought was yours. They were walking gold pieces.

Hunters harvest the buffalo for its hide.

In 1872, they ship over one million out of Kansas alone, worth \$3 a piece back East.

On a good day, Mayer earns more than the President.

Factories use long strong strips of buffalo leather as drag belts. Small pieces become coats and shoes.

To meet demand, hunters kill 8, 000 buffalo a day for their hides alone.

For America, this is progress, because this is a natural resource.

From the Indian's perspective, they couldn't understand what the white people were doing.

But, of course, they knew that the decimation of those buffalo herds would change their lives forever.

The Plain Indians depend on the buffalo and worship them.

The buffalo were our strength from whence we came, and whose breast we suck as babies all our lives.

Black Elk is 6 years old when the railroad arrives.

Unlike the white hunters, his people waste none of their kill. Sinews become bow strings. Bones are cups and spoons. Skin is clothing, tepees and coffins.

Native Americans and buffalos have co-existed since the last ice age.

Black Elk's ancestors hunted them on foot. There were no horses to ride. The modern horse isn't native to North America.

Spanish conquistadors brought them from Europe in 1493. Some escaped to the Great Plains.

Perfect horse habitat. 400 years later, over a million mustangs run wild.

Taming horses transformed the life of the Plains Indian. They become expert horsemen. The battle cry went up. Hokahey! Which means "to charge," and the hunters went in for the kill.

On horse back, the bow is the weapon of choice.

And the time it takes to reload a gun, a warrior can ride 300 yards, and fire 20 arrows.

Buffalo can run at 35 miles an hour. Hunts cover hundreds of miles over many days. It can take 15 arrows to kill a buffalo.

White hunters like Frank Mayer use a single cartridge. He aims for the lungs.

A clean kill drops a buffalo without disturbing the herd. 30 million are killed in a little over a decade.

After hunters take the hides, train loads of men arrive to pick their carcasses.

They make buttons from bones and grind down skeletons for fertilizer and porcelain.

The primary resource keeping Native Americans alive is gone.

Facing starvation, they're forced on to reservations.

My great-great-grandmother, Grandma Big Eagle was alive when buffalo hunting ended.

They weren't just saying good-bye to kind of food stuff.

They were saying good-bye to a way of being in the world.

I think for them to look back on that was just unspeakably sad. In 1889, just 85 wild buffalo exist in the whole United States.

The men who ride the great iron horse are taming the wilderness.

The railroad will bring another modern American icon to the Great Plains. The last of the great frontier's man.

1865. The Civil War leaves cities on the Eastern Seaboard stripped the resources. The country's booming population needs food.

In Texas, over 6 million cattle roam wild worth \$4 a head here, but back East they're worth 40.

By 1868, the railroad spreads from the East, crossing Kansas, but it hasn't reached Texas.

There's still 1,000 miles of Wild West between the herds and the railroad.

For that kind of cattle drive, America needs a new kind of hero.

The cowboy. After the Civil War, 60% of the South's population lives in rural poverty.

In search of work, a new kind of adventurer heads west to cattle towns like Abilene, Wichita and Dodge City.

One farmhand heading to Texas is Teddy Blue Abbott. 23-year-old Teddy Blue is the son of a Nebraska homesteader.

My father wanted to tie me down and make a farmer out of me. Never. I ran away from home to become a cowboy.

The cowboy mentality is a spirit of individuals. I have a communion with land, with my horse.

It symbolizes of a resistance to the authority.

Teddy Blue is one of 35,000 cowboys who will drive cattle to the railroad in Kansas.

Standing in their way, 1,000 miles of untamed West, unforgiving terrain and gangs of rustlers.

For only \$1 a day, cowboys must be skilled horsemen and cattle wranglers.

The lasso dates back to the ancient Egyptians.

Mexican ranchers have been using them for centuries and pass their skills on to cowboys north of the border.

Cattle brought over by the Spanish in 1493 had bred with settlers' cows from England breeding a new breed, the Texas Longhorn.

After centuries roaming the plains, they're wild and easily spooked.

Teddy Blue hears what every cowboy dreads. Stampede. Over four cattle drives, Teddy Blue buries three pals. A tough job for tough man.

One out of three cowboys is Hispanic or African-American.

After the Civil War, thousands of freed slaves head to Texas looking for work.

One is a 23-year-old, from Alabama. Matt Love.

It's his first chance to be judged for his skills, and not just the color of his skin.

The guys on the team were as broad-minded as the plains.

It's every creed for himself and every friend for each other till the end.

Many of the cowboys, to the surprise of most of us, happen to be African Americans.

Black people had the dream of conquering the imagination just like white people do.

The West, vast, wild, lawless, with herds worth up to \$200,000.

Cowboys guard the cattle with their lives, and their guns.

Guns are a way of life in Texas then and now. Even today, Texans own over 51 million firearms.

It's very intrinsic to the American culture and the American identity.

We always had a pistol or a rifle. And I think it's part of "Don't try to tell me what to do".

"I'll fight off my enemies on my own. "The cowboy's gun of choice, the Colt 45. The fastest handgun in the west. Six shots without reloading. Colt produces over 30 million guns. The most popular being the iconic 45.

In 1873, a Colt 45 cost \$17, half a cowboy's monthly salary. Six rounds of bullets. Half a day's pay.

Frontier men would say, Abraham Lincoln may have freed all men, but Sam Colt made them equal.

Cowboys drive 5 million cattle from Texas to the railroad in Kansas.

The largest migration of livestock in US History.

But one simple invention will soon threaten the cowboy's entire way of life: Barbed wire.

In just 20 years two and a half million new settlers flood into the west. New farms cover half a billion acres of open range.

A new battle rages. Cattle rancher versus homesteader. Cowboys like Teddy Blue and farmers are on a collision course.

They'd plant the crop next to the trail. When the cattle got into their wheat, they'd come out waving a shotgun yelling for damages.

Boundary disputes are violent, often deadly. One farmer is determined to find a cheap and effective way to keep livestock off his land. Joseph Glidden.

When we think about innovation in America, we often think about a big audacious projects like the Apollo project, but there's another strain to American innovation.

That's the local inventor.

An individual genius with some passion in the middle of the night coming up with that big transformative idea.

In the fall of 1873, Glidden has a breakthrough. Using a coffee grinder, he crudely fashions some steel barbs.

His problem: how to secure them. Glidden's solution: bind the barbs between two links of wire.

His design cuts the price of fencing by 70%.

Within 10 years, Glidden sells enough to go around the world 25 times, carving the Plains into countless ranches and farms and blocking the cattle trails. The open range is closed forever.

This single invention made possible the settling of the west much sooner and more efficiently than it would have occurred otherwise.

Teddy Blue rides one of the last cattle drives to the railroad.

The heyday of the cowboy on the open range lasts only 20 years.

But settling the Great Plains will mark the end of one way of life and the birth of another.

1876, a century of government policies target Native Americans.

371 treaties keep them separate, isolated, remote.

Most of America's 300, 000 tribes people now live on government assigned lands, reservations.

But resistance is still fierce.

I think probably the darkest spot in our history, for me at least is what happened to Native Americans.

We came here and confiscated their homeland.

I think we have a real sense now of what our part was in that, one that I would love to see redefined and rewritten.

Across the Great Plains. The federal government acquires millions of acres of the Native Americans' traditional hunting ground to make way for the iron horse.

The Sioux are forced deep into the Black Hills. As a young boy, Black Elk witnesses the coming of the railroad and the destruction of the buffalo herds.

Now aged 12, he's about to be part of the Sioux nation's last triumph.

White men come in like a river. They told us that they wanted only a little land.

But our people knew better. Gold is discovered in the Black Hills.

100,000 prospectors rush in to seek their fortune. The federal government wants to clear the area.

On a reconnaissance mission with the 7th cavalry, Lieutenant Colonel George Custer stumbles across the Sioux camp near the Little Bighorn River.

Custer makes a fateful decision: with 700 soldiers, Custer charges the camp with 7,000 Native Americans.

Within three hours all the men in Custer's regiment are dead. The Sioux win the battle, but will lose the war.

In response, US soldiers force 3, 000 Sioux warriors on to reservations. The rest scatter in small bands.

Over the next 14 years, the Plains Indians struggle to survive, until the incident that finally defeats the Great Sioux Nation.

Wounded Knee is a great, great scar on the American landscape.

December 29th, 1890, The Last band of independent Sioux surrender beside Wounded Knee Creek.

As the cavalry disarms them, a gun goes off accidentally. It triggers a massacre.

Within minutes over 200 Sioux warriors, women and children are dead. Now 27, Black Elk survived.

When I look back now, I can still see the butchered women and children lying heaped and scattered as plain as when I saw them when I was still young. And I see that something else died there. A people's dream died there. It was a beautiful dream.

The railroad has transformed North America. In just 30 years, 30, 000 miles of track cross the continent.

More than the rest of the world put together.

Thousands of new towns spring up around railroad stations. One every eight miles. Five rail lines link the East and West Coast.

The railroad even changes time itself. Until now, Americans set their clocks by the sun. 8,000 different times along 500 rail lines. Scheduling trains becomes impossible.

On November 18th, 1883, the continental US is reduced to just four time zones. Standard time is born.

The railroad is now the largest employer in America. Nearly a million workers.

One is a 23-year-old station agent from rural Minnesota.

Richard Sears. With the US adjusting to new railroad times, Sears turns entrepreneur, and buys a batch of pocket watches. He offers them to other station agents, and waits. Bingo. An order comes through.

Followed by another, and then another.

Within six months, Sears sells all his watches, 2500, earning 10 times his railroad salary.

Realizing he can use the railroad for sales and distribution, Sears jumps on the opportunity with an idea that will transform the nation: the mail-order catalog.

I think Americans are naturally entrepreneurial. If you worked hard and if you had good ideas and you were willing to make short term sacrifices, you could succeed in this country.

10 Years after selling his first watch, Sears publishes a 700-page catalog.

Now based in Chicago, he processes over 35,000 orders a day, delivering refrigerators, pianos, one year, over 100,000 sewing machines.

Using the railroad, Sears can sell virtually anything, anywhere in the country.

What really transformed this country wasn't just the westward migration and development of cities in the east, but the ability to move products across great distances.

Linking together what it had previously been very disparate little settlement that had to be largely self-sufficient.

By the end of the 19th Century America has 200,000 miles of railroad track, linking the local markets and creating a national economy.

Over the next 40 years, the amount of freight carried by rail shoots from 55 to nearly 700 million tons.

Resources from the Midwest feed the country's growing industries in the East.

The United States overtakes Britain as the largest manufacturer on earth, soon producing 30% of the world's goods.

The railroads laid the basis for the creation of the single largest market in world economy.

And this made it possible for the United States to become the global economic power that it did by the end of the 19th century.

In 20 years, the U.S. population doubles to 80 million. The number of cities triples.

7 million Americans leave the country for the nation's booming urban centers.

Where buffalo once roamed, now rises the modern world.