

MY WEIRD PROMPTS

Podcast Transcript

EPISODE #183

The Hidden Copper Graveyard: Our Legacy of Dead Cables

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EPISODE SYNOPSIS

In this episode of My Weird Prompts, Herman and Corn dive deep into the invisible world of "abandoned in place" infrastructure. While we celebrate the blistering speeds of fiber optics and 5G, millions of miles of legacy copper and lead-sheathed phone lines are slowly decaying beneath our city streets. From the environmental hazards of lead leaching into the soil to the logistical nightmare of "urban mining," the brothers discuss why the multi-billion-dollar value of this metal isn't enough to get it out of the ground. They explore the transition from DSL to DOCSIS 4.0 and ask a critical question: as we build our digital future, are we simply choking our cities with the clutter of the past? Join us as we explore the literal foundation of the technosphere and the specialized robots designed to perform "heart bypasses" on our urban conduits. It's a fascinating look at the high cost of moving on from the technology that once connected the world.

DANIEL'S PROMPT

Daniel

With the transition toward fiber optics and technologies like VoIP replacing traditional telephony, what is the plan for all the redundant infrastructure—like DSL and coaxial cables—that remains underground and above ground? Given how disruptive it is to dig up or remove old lines, how will this legacy infrastructure be managed as we move toward a fully fiber-optic-based future?

TRANSCRIPT

Corn

Hey everyone, welcome back to My Weird Prompts. We are at episode two hundred eighty-four, and man, the house has been a bit of a construction zone lately. I am Corn, and I am joined by my brother as always.

Herman

Herman Poppleberry, at your service. And yes, Corn, the construction you are referring to is our housemate Daniel basically rewiring his entire life. He sent us this prompt after spending the weekend wrestling with a two point five gigabit switch and a mountain of cat seven cable.

Corn

It was quite the sight. He was so excited about finally getting those two gigabit download speeds, but it got him thinking about the layers of history literally buried under our feet here in Jerusalem. He was asking about all that redundant infrastructure. We have moved to fiber, we use voice over internet protocol for our phones, but the old copper DSL lines and the coaxial cables are still there. Underground, on the poles, everywhere.

Herman

It is a fascinating question because it is one of those invisible problems. We focus so much on the new technology, the shiny fiber optics and the five G towers, that we forget about the literal millions of miles of legacy metal that we have just left behind.

Corn

Exactly. Daniel was pointing out how disruptive it is to dig up a street. We see it all the time in Jerusalem. They tear up the road to put in a new water pipe or a fiber line, and the traffic is backed up for weeks. So, if it is that hard to put things in, what is the plan for getting the old stuff out? Or do we just leave it there forever like some kind of digital archeology?

Herman

That is honestly the million dollar question, or more accurately, the multi billion dollar question. To understand the scale, we have to look at what is actually down there. For over a century, the backbone of global communication was copper. The public switched telephone network was a masterpiece of engineering, but it was built on twisted pair copper wire.

Corn

And then the cable companies came along and added coaxial cable for television, which we then realized could also carry data. So now, in twenty twenty-six, we have these overlapping networks. Most developed areas have at least three generations of wiring. You have the original copper phone lines, the coaxial cable from the nineties and two thousands, and now the fiber optic lines.

Herman

Right. And here is the thing most people do not realize about the copper network. It is not just sitting there dormant. In many cases, it is still powered. Those old phone lines carry a small amount of electrical current, which is why your old landline phone used to work even when the power was out. Maintaining that power and the central offices that manage it is incredibly expensive.

Corn

I remember we touched on some of the legacy tech issues back in episode two hundred eighty-one when we talked about programmable voice and the old dial tone. But the physical side of this is even messier. Herman, what is the actual incentive for a company like AT and T or Verizon or Bezeq here in Israel to actually remove that copper?

Herman

Honestly, Corn, from a purely financial standpoint, the incentive is often zero or even negative. Removing buried cable is a nightmare. You have to get permits, you have to disrupt traffic, and you run the risk of accidentally cutting into something that is still active, like a water main or a newer fiber line. The labor costs alone often exceed the scrap value of the metal.

Corn

But copper is valuable, right? I mean, we hear about people stealing copper from construction sites all the time. If there are millions of tons of it underground, isn't that a gold mine?

Herman

It is, but only if you can get to it cheaply. There is a concept in the industry called abandonment in place. This is where a company simply stops using the line, cuts the ends, and leaves it in the conduit or the soil. It is the path of least resistance. However, we are starting to see that this approach has some serious second order effects that we are only just now beginning to reckon with.

Corn

You are talking about the environmental impact, right? I remember that massive investigation by the Wall Street Journal back in twenty twenty-three.

Herman

Exactly. That was a huge wake up call. A 2023 Wall Street Journal investigation highlighted lead-sheathed telecom cables leaching toxins into soil and water across the US, with extensive legacy networks posing risks. Before the industry moved to plastic insulation, they used lead to protect the copper from moisture. And because those cables were abandoned in place decades ago, they have just been sitting there, slowly degrading.

Corn

That is the scary part. It is not just redundant infrastructure, it is potentially toxic infrastructure. The problem is that because they are abandoned, nobody is really monitoring them.

Herman

Right. And that creates a massive legal and regulatory headache. Who is responsible? Is it the current company that bought the old company? Is it the city? Regulatory pressure and lawsuits over legacy cable remediation continue to grow. But the scale is just mind boggling.

Corn

So, what are the options? If we can't just leave it there because of the lead and the clutter, but it is too expensive to dig up, is there a middle ground?

Herman

There are some really cool technological developments in what people are calling urban mining. There are companies developing specialized robots that can go into existing conduits and pull out the old copper wire while simultaneously laying down new fiber. It is like a heart bypass for the city.

Corn

That sounds much more efficient than digging up the whole street. But I imagine it only works if the old copper is in a conduit, right? What about the cables that are just directly buried in the dirt?

Herman

That is where it gets really difficult. Directly buried cable is basically part of the geology now. In those cases, the cost of removal can be tens of thousands of dollars per mile in an urban environment. Unless the price of copper skyrockets to unprecedented levels, it is hard to see a private company doing that voluntarily.

Corn

It feels like a classic tragedy of the commons situation. The private benefit of leaving it there is high for the company, but the public cost of the environmental damage and the congested underground space is high for everyone else.

Herman

Precisely. And we have to talk about the space issue too. Underground space in a city like Jerusalem or New York is a finite resource. If the old conduits are full of dead copper, there is no room for the new fiber or the upgraded power lines we need for electric vehicle charging. We are literally being choked by our own history.

Corn

That is a great point. It is not just about the metal, it is about the real estate. I wonder, though, about the coaxial cable. Daniel mentioned that too. Is coax in the same boat as the old copper phone lines?

Herman

Not quite yet. Coaxial cable is actually surprisingly resilient. While fiber is the gold standard, the cable companies have been very good at squeezing more life out of coax using a standard called DOCSIS. DOCSIS four point zero promises speeds of up to ten gigabits per second down and six gigabits up and is in development/early deployment.

Corn

Wait, really? Over the same old round cables we used for cable TV in the nineties?

Herman

Yes, it is incredible engineering. They are basically using wider frequency ranges and more efficient modulation. So, for many people, the coax network is still very much a primary infrastructure. It is not redundant yet in the way that DSL is. But eventually, yes, it will face the same fate as copper. Fiber is just fundamentally better because it has lower latency and is not susceptible to electromagnetic interference.

Corn

So we are looking at a staged transition. DSL is the first to go, then eventually coax. But as we move toward twenty twenty-seven and beyond, the pressure to clean up the copper is going to grow. I am curious about the international perspective. Are other countries handling this better than the United States or Israel?

Herman

Some are being more proactive. In parts of Europe, there are stricter requirements for companies to have a retirement plan for their infrastructure. They can't just walk away from it. There is also a lot of interest in creating a national database of underground assets. One of the biggest problems right now is that we often do not even know exactly where the old cables are.

Corn

That is wild. We have mapped the surface of Mars, but we don't have a perfect map of what is six feet under our own streets?

Herman

It is true! Many of the old maps are hand drawn on paper in a basement somewhere, or they are just plain wrong. When a crew goes out to dig, they often find things they weren't expecting. This is why you see those little colored flags and spray paint on the sidewalks. They have to use ground penetrating radar and electromagnetic sensors to find the lines before they dig.

Corn

It sounds like we need a new kind of civil service, like a digital sanitation department. Instead of just picking up the trash on the street, they manage the legacy data infrastructure.

Herman

I love that idea. It would be a combination of environmental protection and urban planning. And there is actually a huge opportunity here for the circular economy. If we can find a way to make copper recovery profitable, we could reclaim millions of tons of high quality metal without having to dig new mines.

Corn

Let's talk numbers for a second, because I know you love the data, Herman. If we were to actually recover all the redundant copper in the United States, what are we talking about in terms of value?

Herman

Estimates vary wildly, but some industry analysts suggest there could be millions of miles—potentially more than five million tons—of copper still sitting in the ground and on poles. At current market prices, that is tens of billions of dollars. But again, the extraction cost is the hurdle.

Corn

So, if the government were to subsidize the removal, or if they taxed the abandonment of cables, that could shift the math.

Herman

Exactly. If you make it more expensive to leave it than to take it, the companies will find a way to get it out. We are also seeing some interesting partnerships between telecom companies and specialized recycling firms. These firms take over the decommissioning process. They handle the labor and the environmental risks, and in exchange, they get a share of the commodity value.

Corn

That seems like a viable path forward. It turns a liability into an asset. But what about the stuff that really can't be moved? Like the lead sheathed cables that are under a historical monument or a major highway?

Herman

In those cases, the strategy is often encapsulation. You basically pump a specialized grout or resin into the conduit to seal the cable in place and prevent any leaching. It is not a perfect solution because you still lose the conduit space, but it mitigates the environmental risk.

Corn

It is amazing how much of our modern world is built on these layers of decaying technology. It reminds me of those old cities where they just kept building new houses on top of the ruins of the old ones.

Herman

That is exactly what it is, Corn. We are living on top of a technosphere. And as we move into this fully fiber optic future, we have to decide what kind of foundation we want. Do we want a clean, well mapped underground, or do we want to keep burying our problems and hoping the next generation figures out how to deal with them?

Corn

Well, knowing Daniel, he would probably be out there with a shovel himself if he thought there was a way to get better ping times. But for the rest of society, it is a massive policy challenge. I think one of the practical takeaways for our listeners is to realize that the transition to fiber isn't just about the speed. It is about a fundamental shift in the physical makeup of our world.

Herman

Right. Fiber is glass. It is made of sand. It doesn't leach toxic chemicals, it doesn't corrode the same way, and it is much smaller for the same amount of data capacity. Moving to fiber is an environmental win in the long run, even if the transition period is messy.

Corn

So, if you are a homeowner or a business owner, and you have these old lines running into your building, what should you do? Most of the time, the advice is just to leave them alone, right?

Herman

Yeah, for an individual, you don't want to be cutting into things. You don't know if a line is still carrying power, and you certainly don't want to be handling lead sheathing without proper protection. If you are having fiber installed, you can ask the technician if they can remove the old copper drop line that goes from the pole to your house. Often they will do it because it cleans up the look of the property and reduces the weight on the poles.

Corn

That is a good tip. Every little bit helps. And I suppose for people living in older apartment buildings, this is even more of a headache. The risers, the vertical shafts where the cables run, are often completely packed with twenty years of dead wires.

Herman

Oh, don't even get me started on apartment buildings. I have seen wiring closets that look like something out of a horror movie. It is a major fire hazard too. All that old plastic insulation can be quite flammable, and it creates a chimney effect in the shafts. Forward thinking building managers are starting to do cable audits where they identify and rip out everything that isn't connected to a live service.

Corn

It feels like we are entering an era of digital spring cleaning. We have spent fifty years just adding and adding, and now we finally have to start subtracting.

Herman

It is a necessary step. We can't have a sleek, high tech future if we are dragging around the leaden weight of the twentieth century. And I mean that literally.

Corn

Well, I think we have given Daniel plenty to chew on while he finishes his networking project. It is not just about the two point five gigabit switch, Daniel. It is about the mountain of copper you are leaving behind!

Herman

Exactly. And honestly, it makes me appreciate the fiber even more. It is so elegant compared to the brute force of those old copper trunks.

Corn

Before we wrap up, I want to pivot back to something we discussed a few weeks ago in episode two hundred eighty-three about the new AI architectures. We talked about the need for massive data throughput, and this legacy infrastructure problem is actually a bottleneck for that too. If we can't get the old stuff out to make room for the new fiber, we can't support the kind of distributed computing that those new models require.

Herman

That is a great connection, Corn. Everything is linked. The physical layer, Layer One of the Open Systems Interconnection model, is still the foundation for everything else. You can have the most advanced reasoning model in the world, but if the data is stuck in a congested copper pipe from nineteen seventy-five, it doesn't matter.

Corn

It is the ultimate reality check. We talk about the cloud like it is this ethereal thing, but it is made of glass and metal and dirt.

Herman

And lead! Don't forget the lead.

Corn

Definitely not. Alright, I think that is a good place to leave it for today. We have explored the massive scale of the redundant infrastructure problem, the environmental risks of lead leaching, the economic hurdles of recovery, and the potential for a more circular approach to urban mining.

Herman

It has been a deep dive, literally. I hope our listeners look at those little colored flags on the street a little differently now. There is a lot of history down there.

Corn

If you enjoyed this episode, or if you have your own stories about finding weird stuff in your walls or under your streets, we would love to hear from you. You can find us at our website, myweirdprompts.com. There is a contact form there, and you can also find the link to our RSS feed if you want to subscribe.

Herman

And hey, if you have been listening for a while and haven't left us a review yet, we would really appreciate it if you could take a minute to do that on your podcast app or on Spotify. It genuinely helps other curious people find the show.

Corn

It really does. Thanks to Daniel for the prompt that started this whole rabbit hole. We are going to go see if he has actually managed to get his network running or if he is just buried under a pile of cat seven.

Herman

I will bring the wire cutters.

Corn

This has been My Weird Prompts. Thanks for listening, and we will talk to you next week.

Herman

Until next time, keep asking those weird questions.

Corn

Bye everyone.

Herman

Goodbye.

Corn

So, Herman, one last thing before we go. If you had to guess, what year will it be when the last piece of copper is finally pulled from the ground in a major city?

Herman

Oh man, that is a tough one. Given the pace of bureaucracy, I would say we will still be finding surprise copper lines in the year twenty one hundred. We are basically leaving a gift for the archeologists of the future.

Corn

Digital fossils. I love it.

Herman

Exactly. Alright, let's go get some coffee.

Corn

Sounds good.

Herman

See ya.

Corn

See ya.