[SQUEAKING] [RUSTLING] [CLICKING]

LUIS PEREZ-BREVA: Problems are not catastrophes. We humans have a penchant for drama. We love to present problems as if they were catastrophes and talk about them as if there was only one way to solve them, some silver bullet or some magic pill.

Let me give you some examples of what I mean. A few years ago, students in an MIT dorm came up with a system to grow lettuce in a closet. Soon, they were persuaded to present their invention as the start of a movement that would yield a solution to food distribution, obesity, chemical runoff, climate change, even.

By the same logic, in 2025, if you were concerned about, say, declining math literacy, you might be tempted to talk about a more grandiose problem, like soon, even computers will start making addition mistakes, or AI will kill us all unless we learn to divide by zero, or something involving climate change. These last examples are a bit silly, but they help me make my point. The drama distracts you from actually understanding the problem you're solving.

You may be inclined to talk about problems this way, so they'll be taken seriously enough to solve. But this isn't how you solve them. Real-world problems are more interesting.

So let's talk about what are real problems and how to solve them. It's not what you did in math class. Love them or hate them, those math class problems had a ready-made problem statement, and the variables were all spelled out, all handed to you by the teacher. One thing was clear-- there was just one solution.

This was pretend play problem-solving. Problems in the real world that matter, problems you are truly motivated to take on-- and maybe that's why you are watching these videos-- they don't have ready-made problem statements, not until you produce them. You do not need clarity about the problem. Scratch that-- you can't have clarity unless you commit to explore the actual problem.

At first, real-world problems might look like a nuisance, an obstacle, an impediment, or a collection of symptoms that is hard to diagnose. In the new mindset, we appreciate that solving the problem and understanding it are the same thing. No matter the problem, you can come up with a technology that makes it easier to understand.

You can take that as a new definition for what we mean by technology. Technology helps us reach further. It removes obstacles. It solves problems.

And just like technology creates options, what makes real problems interesting is that there are many ways to chip at them. If you remember only one thing about this video, let this be it. You have options.

Here's an example of what I mean. At the start of my career, I worked on a system to locate cell phones in case of emergency. The regulator, the Federal Communications Commission, was worried that as cell phones replaced landlines, they would lose the ability to locate a call to emergency services.

Landlines were easy to locate. Each number was associated with an address already. But how to get a location estimate for a mobile phone? In fact, there are many options. One could install GPS in our phones or find ways to triangulate signals. We found yet another way using AI and founded Polaris Wireless.

But there were other parts of the problem, too, like supplying emergency services with a medical record so emergency responders could be readier. The problem was not limited to locating phones. Rather, it was fielding emergency response calls placed from a cell phone timely.

Each of those ways to chip at the problem led to at least one company. Your first task in doing genuine innovation is not solving the problem. It isn't getting a single solution either. It is figuring out what the problem actually is.

There is a way to do this systematically. It's called prototyping a problem, the subject of the next video.

[MUSIC PLAYING]