[SQUEAKING]

[RUSTLING]

[CLICKING]

LUIS PEREZ-BREVA: Video 5, prototype problems, not products. No one likes uncertainty. If you're innovating, that's all you have. Think about it. You're tackling a problem no one has before. Without a ready-made problem statement, without technology no one has used quite that way before, and you're working off a hunch. Really, all you have is uncertainty.

I am using the word "hunch" because it's the best word in the English language to describe the state of your idea at the very start. When you start, that idea isn't really fleshed out. At best, it's something exciting you want to work on, but you know you need to flesh it out before you can even work on it.

And so instead of talking about ideas and putting all those attributes and ideas, scalable and disruptive and whatnot, I invite you to think of everything you are thinking about at the start as a hunch, something that should get you excited for what comes next, as opposed to stressed out for how big or disruptive it needs to be.

The only way to move forward is to get real-- the sooner the better, so you can get on with the job, which I told you already is fixing what's wrong about your idea. You start by prototyping the problem-- yes, the problem. You may be tempted to start prototyping some product or the pitch, but if the user, the product, and the solution are known, then someone else must have worked out the problem for you, like in math class, that's how much we dislike uncertainty.

This is how it typically goes. You end up taking a gamble on the solution you imagined and stop paying attention to the problem. You leave no room for being wrong, and by the time you discover how you were wrong, failing is the only viable option you have left.

In 2013, in an interview with National Public Radio, Chris Hadfield, the Canadian astronaut, described how astronauts prepare for a mission to the Space Station in a way that I believe captures the difference between prototyping a problem and focusing on the solution.

CHRIS HADFIELD: Half of the risk of a six-month flight is in the first nine minutes. So as a crew, how do you stay focused? And how do you not get paralyzed by the fear of it? And the way we do it is to break down, what are the risks? And a nice way to keep reminding yourself is what's the next thing that's going to kill me?

And it might be five seconds away. It might be an inadvertent engine shutdown, or it might be staging of the solid rockets coming off, or it might be some transition or some key next thing we've already say had one computer fail and we've had one hydraulic system fail, so if these three things fail now, we need to react right away or we're done.

So, we don't just live with that, though. And the thing that is really useful, I think, out of all this is we dig into it so deeply and we look at, OK, so this might kill us. This is something that would normally panic us, let's get ready, let's think about it. And we go into every excruciating detail of why that might affect what we're doing and what we can do to resolve it and have a plan, and be comfortable with it, and practice it.

LUIS PEREZ-BREVA: In this interview, astronaut Chris Hadfield is talking about focusing on the problem. To them, that's going to the Space Station and making it back to Earth. And the way they do it is by discovering what might go wrong and finding ways to fix it in the rocket, through practice, or whatever.

When the mission starts, they are prepared for everything they foresaw, and they are ready to handle many things they could not have predicted. That is what I mean by prototyping the problem. When you prototype the problem, your goal is to make the problem tangible enough for you and others. The more tangible your description of the problem, the easier it will be for you and them to see ways to solve the problem.

In contrast, prototyping a made-up solution for a problem you do not understand is like putting the carriage before the horse. You do not want to wait until launch day to see if you're working on the problem. If you do, you'll miss out on everything that's not captured by what you imagined to be the solution.

It would be as if the astronauts had picked ahead of time the one thing that might go wrong and prepared only for that. There's more I would like to tell you about how to prototype the problem. I am also aware of old habits die hard.

You can find out more strategies in my book, *Innovating, A Doer's Manifesto,* or in the many materials I've shared online. For now, let me just give you a tip for how to get started. This is how you can start practicing.

Come up with three solutions to the problem. Prototype all three. Then ask yourself, or someone else, the following two questions. Are these three solutions sufficiently different? And how would you know either of them actually solves the problem? Once you start getting real, you realize there's multiple ways to chip at the problem and have an impact.

[MUSIC PLAYING]