[SQUEAKING]

[RUSTLING]

[CLICKING]

LUIS PEREZ-BREVA: Episode 10, go combinatorial. What if the technologies we need to solve the big challenges we face ahead had already been invented? How would you know? I opened this series of videos with one idea. There are about 40 years of technology sitting on the shelf waiting to be discovered by a new breed of innovators.

We are sitting on a goldmine of underutilized technologies-- that is, scores of technologies conceived with some purpose in mind that did not materialize as impact in time and now languish on the metaphorical shelf. Let me tell you how I came to appreciate this using an analogy with grilling.

Do you grill your burgers or your vegetables with the lid of the grill open or closed? There's a difference between those two options. Do you close the lid and wait about five minutes until they're just a turn away from done? Or do you leave the lid open and admire the cooking for 15 minutes? Closing the lid makes all the difference. It recycles and recombines the heat.

Engineers call that a feedback loop. The more heat you reuse, the sooner you'll get to enjoy the juicy burger, or vegetable, and the less energy you will waste.

Now that you have seen the rest of these videos, you probably know where I'm going with this analogy. In the old mindset, each technology had one use and problems could only be solved one way. Then they were discarded. Discarding ideas is like cooking with the lid open. Most of the potential innovations, like the heat in the analogy, go to waste.

In the new mindset, we have options. We can repurpose technologies. It is like cooking with the lid closed. We recycle and recombine technologies, and we stand to accelerate the rate at which we explore and understand problems.

I first hinted at some of these ideas in a concept paper published in Epsilon Theory, and more recently, in a response to the National Science Foundation's request for information. This has important implications for how you run an innovation department for science and technology agencies, for investment firms, and for up and coming innovators and tinkerers.

Imagine if we could bring this same thinking to solve the challenges we care about-- climate change, inequality, education. It's easy. The cooked burger is like a problem solved. The more we ready technology for reuse, the likelier it is to be employed usefully to solve problems. And the more we make those technologies available, the more we stand to take advantage of our own diversity of purpose.

We are sitting atop a gold mine. We've barely scratched the surface of how to usefully employ technologies already invented.

[MUSIC PLAYING]