



## Stanford eCorner

### Shooting Down Moonshots

Astro Teller, X

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Video URL: <http://ecorner.stanford.edu/videos/4213/Shooting-Down-Moonshots>

Astro Teller says the momentum within X, Alphabet's moonshot factory, depends on teams discovering as fast as possible if something is a bad idea, so they can move on to the next one. That requires a work environment where both creativity and critical thinking are rewarded. "Every place is a legitimate place for ideas to come from," Teller says. "You can't destroy the positivity that comes from saying crazy ideas."



#### Transcript

- So we have a team, which is called the Rapid Eval Team. The Rapid Eval Team is supposed to take ideas. From me, from you guys, literally, from the founders at Alphabet. Anywhere they can get their hands on an idea. It doesn't matter where the idea is. There's an academic at Berkley, or Stanford, or Johns Hopkins, great. Every place is a legitimate place for great ideas to come from. How can we figure out as fast as possible, that that's a bad idea? That is absolutely and explicitly the question. It sounds like that's not gonna work. Just say everything's a bad idea.

But if you set the tone the way I've just described it, people are actually interested in coming up with a real reason why it's a bad idea. You can't destroy the positivity that comes from saying crazy ideas. But if you say to me, "Hey, ridiculous idea, do you think we could get "the power that's embodied in an avalanche "somehow gathered? "Maybe that's like a way to generate energy." The correct answer, no matter what she said, is "That's an awesome idea." She has to feel good about the level of creativity of her idea. I mean if she said something it's like, actually there's 100 companies already doing that, and you purchased something from them yesterday. Then maybe that's not an awesome idea. But assuming that it's really outside the box, the correct first answer, the only acceptable first answer is, "Wow, it's beautiful the way your brain works." Then immediately, "That's so great. "How are we gonna figure out that that's a bad idea? "That that's not gonna work?" So she just got a little check mark with myself, with her peers. For having said something that was really interesting, that was innovative, that was different than what we were thinking before. And immediately she now also gets to get another check mark if she can show the intellectual rigor for why it's a bad idea. Well okay, I guess we could try to generate avalanches.

And like how much is in an avalanche? It's good, it's not great. Okay, well maybe we can move the thing that's gonna turn all that potential energy and kinetic energy into lots of stored energy. Maybe we'll move it around so we can get the avalanches as they fall. No, that's not really gonna work. It won't take us but five minutes to sort out that there's probably no practical way to do that. Good, awesome, we've figured out rigorously, not just in our gut that that's not gonna work and we can move on. Because the rate limiting step to innovation is not finding smart people. You're all plenty smart enough. It is not being creative. How many people here in this room think that you're highly creative? Good.

The other half of you are wrong. (audience laughs) You're all highly creative. How many of you think you were creative when you were six? Who wasn't creative when they were six years old? I mean you don't have a six year old if you think you weren't creative when you were six. We just get it beaten out of us by society. I promise you, you were creative when you were six years old. We all were. We've just forgotten how because the context isn't inspiring us, isn't allowing us. It's literally blocking us. But that's not the problem. The problem is, how to get a huge number of ideas on the table, and then weed through them effectively.

Which is not about process, it's about creating an environment where people feel like they can be rewarded in emotional ways and financial ways for doing that. A tiny fraction of these ideas then pass through to our sort of second stage booster rocket which we call a foundry. In the first stage, most of the de-risking that we do is on the technical front. Building prototypes, verifying that it's not some isomorphism to like a perpetual motion machine. You'd be surprised. Probably one in 100 of the ideas we get literally is an isomorphism to a perpetual motion machine. Once something gets to foundry, maybe 20, 30% of the work is still very technical. But a lot more of the work then gets applied to what is the ecosystem like? And the regulatory environment? How much would we have to invest versus how sizeable a business would this be? How much good would this really do for the world? If we didn't do this, would the world end up with that benefit anyway for some other reason or not? Working through all those reasons, again, for the purpose of killing the project, even in foundry, which is supposed to only receive things that have been heavily weeded. The goal is to have more than half of those projects be killed. When you hit more than half, you're clearly in a mode where the people in foundry understand.

Even though they can be very passionate about the projects they're working on, that there's less than a 50% chance of doing it. So they can take pride in ending the projects for the right reasons. I mean eventually, you know, for the self driving cars, I'm pretty sure cars are gonna drive themselves since cars are already driving themselves. For Project Loon, we have a lot of balloons up in the air. They're already doing LTE to the ground. People are actually receiving phone calls. So we know it's possible. Kind of the ship has sailed, pun intended a little bit on some of that stuff. But for a long time, the pressure is not, how can we make this work? It's how can we discover as fast as possible this is not gonna work. So that we can get on to doing something else.