Terence Tao : Research powers progress

Science is really like an an ecosystem. It's not just a few really brilliant people doing brilliant things. It takes a whole community. For many decades, the US has had this this rather healthy scientific ecosystem and now it's under threat. Science is a public good. Uh when you when you when someone makes a scientific discovery, everyone can use it. You look at a smartphone, the basic communication protocols and the way you use wireless spectrum and so forth that is is is is public domain mathematics. I was once at a program about 20 years ago uh we found algorithms that managed to speed up the time needed to get a high quality MRI scan. A scan that used to take 3 minutes could take 30 seconds. We published this and then other people got very excited and now all the big MRI imaging companies all their latest models they use our algorithms.

The problems that we are facing now are really all complex and multifaceted um and we need very complex multifaceted solutions. You need a place like a university, a place where you can really see all angles of the same problem. You know, I've been to conferences where you have people from kind of a wide array of fields and suddenly you have these hailmary collaborations that sort of lead to the the biggest breakthroughs. These are probably the biggest losses when you lose this this type of funding. We need much more accurate uh prediction of extreme weather events. pandemic prediction, predicting the spread of misinformation, detecting errors in AI, basic science is an investment in many, many small projects. And if even just a small percentage of them yield fruit, that it's it's a massive return on investment. The US used to be sort of the the default, you know, the no-brainer option. If you got a offer from a top US university, this was like almost the best thing that could happen to you as an academic.

US academia is something that as a country we can be proud of. It attracts people internationally. Uh we have the chance to have had a lot of funding from the NSF which has put many US institutions at the forefront of mathematical research. If it's just a less welcoming atmosphere for science in general here, um the best and brightest may not automatically come to the US as they have for decades. I think no one knows exactly what's going to happen in the next few years. It could be a dramatically different future than we anticipated.

Modern ethics is a very socialworked experience. I mean in the past it would be individual people working in atticss on on individual problems. The trend is very much towards interdicciplinary highly collaborative research. You need students, you need postocs, you need conferences, you need people from different fields talking to each other. You need industry talking to academics. There's a long pipeline of where these technologies come from. If you cut out one of the steps of the pipeline, eventually the whole thing dries up. You know, once these incidents start happening, it will take a long time to recover a certain level of trust in the system. This is the time to turn things around right now.

Référence de la vidéo : https://www.youtube.com/watch?v=skWt$_P Zosikt = 6s$.
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