The Paul Romer Nobel Lectures

NYU Stern

Fireside Chat with Nobel Prize Winner, Professor Paul Romer

https://www.supereconomics.ai/video/Paul-Romer-NYU-Nobel-Lecture

27th November 2018

First transcribed and edited by Nick Ray Ball 1st October 2019

Paul Romer; 'cities are engines of innovation – economic prosperity and opportunity, it's a place where ideas both come, and grow, and flourish, and are executed.'

https://www.youtube.com/watch?v=8lu_ddw0o0A

"The process of the accumulation of ideas often referred to as technological change."

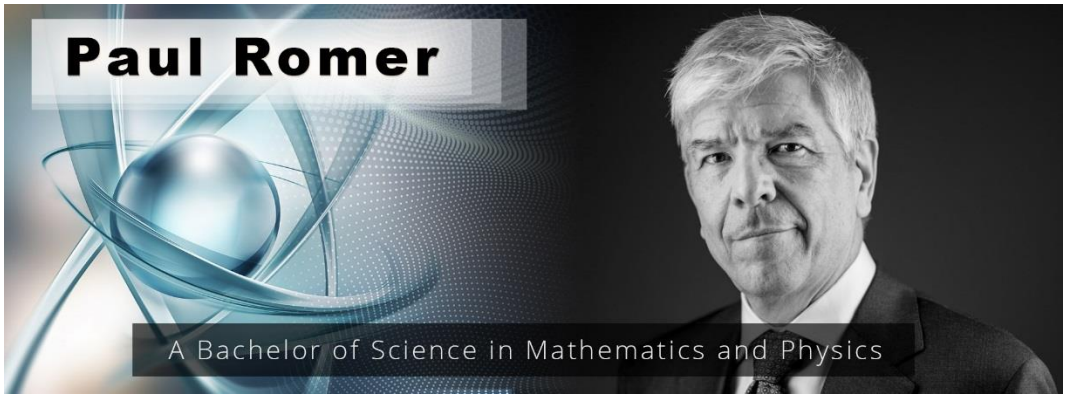
And just like my son, Jeff, my colleagues recognize that this could be the offsetting force. **But to have a theory that could satisfy a physicist**, I needed to dig down into what was the meaning of an idea. **How could we be precise about an idea and use the accumulation of ideas as a way to understand technological progress.**

Now, one of the key elements of an idea is that it represents codified knowledge, its knowledge represented in symbols on a piece of paper or in bits these days. Because it is codified, it can be copied and shared, and then used by everybody on earth. And by sharing, I don't mean the kind of sharing where we take turns, this is a sharing where everybody can use something like the Pythagorean theorem at the same time. If we want to, for example, create the kinds of right angles that we use in construction.

There's another concept that I need to flesh out about related to ideas, which is what computer scientists refer to as

A Combinatorial Explosion.

If you have a number of elements that you can combine; you have 10 elements and combine them, we can calculate how many combinations can you make. If you have 20, we can calculate it again. Combinatorial explosion is a summary of the fact that the number of combinations explodes as you take more and more raw different elements that you can use to combine them.



So, ideas mean that people are no longer are rivals, they can be our allies. This suggests a very important possibility, that we can take a set of us and expand it. We can draw a bigger circle, include more people inside us, and treat them with at least indifference or the small appreciation that comes from membership in the set of us.

Now, this benefit of other people was a possibility that Bill wrote/ discovered and modelled, he published in 1969. Ken Arrow, another Nobel Prize-winning economist, wrote a model with that same property in 1962. I, In the 90s, after working out a theory of growth based on ideas along with other economists, worked on **result showing that integrating different regions of the world into a unified global system; where we traded goods, but particularly, importantly, we traded ideas; this could speed up the worldwide rate of growth.**

from the period of roughly the Neolithic Revolution to at least the Scientific Revolution, the actual evolution of humans as a species was driven by a process of more discoveries, leading to the production of more food, which led to more people who in turn developed more and more discoveries. And so, there was this explosive process of growth and the population that was proceeding at the rate that was growing exponentially.

So, this is not exponential growth, this is exponential growth in the rate of exponential growth; which is the best way to characterize the behaviour of humans up through about the Industrial Revolution.

"Now the key point I want to make is that there's a third notion of progress, that I'm going to call 'human progress.' Progress not in what we have, but in who we are. And it's the kind of progress that comes from seeing other people, even perhaps starting to see other semi-sentient beings like the animals we interact with, seeing them as part of us, treating them with at least indifference, rather than malevolence and treating them as objects or predation. This type of progress in who we are is even more important than the material progress."

Paul **Romer**

There's a huge advantage in doubling the amount of people who contribute to the production of the ideas, from which we all benefit.

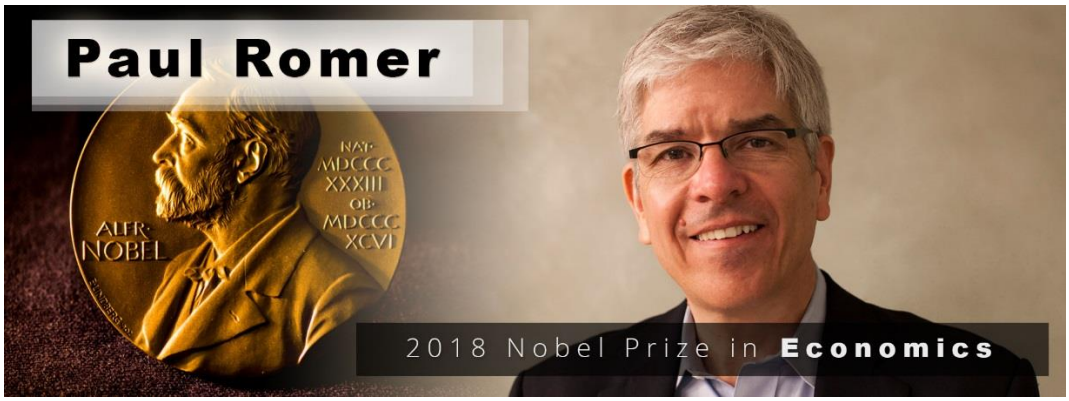
The other point I need to make is that because the population won't grow after this century, to keep getting more and more ideas, we need more people to go into science and need to raise the productivity in science.

So, let me close with encouragement to young people, about what a fantastic life can come from science and encouragement to young economists at a time when the economics profession has gotten a lot more competitive. It's much tougher to start out as a young person than it was when I was a graduate student or Bill was.

But remember that there is an enormous opportunity in economics to start to explore these broader notions of progress, the broader side of human nature that includes the kind of things that William Faulkner talked about in his Nobel speech – love and honour – pity and pride –

compassion and sacrifice.

Economics will be much more relevant when we can take account of all those and we'll have a better idea about why is it that we can sometimes appeal to sacrifice, and people respond because this is what we'll need.



So, let me close by expressing my deep appreciation for the system of prizes that Alfred Nobel established, and that the Nobel Foundation has sustained. A system for celebrating all the types of intellectual inquiry that emerged from the period in history we call the enlightenment. And remember there's a reason we call it the enlightenment. **So yes, let there be light, let there be light in our daily life, but let there be light two in our spirits and in our soles.**