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The next step in nanotechnology
Ted Talk by George Tulevski

Summary

Nanomaterials are these just impossibly small, fascinating little objects and the heart of a field called nanotechnology. When objects get really small, they're governed by a different set of physics that govern ordinary objects, like the one we interact with; that's why tons of money were pouring in from funding agencies on this field. What Quantum Mechanics tells you is that you can precisely tune their behaviour just by making seemingly small changes to them, like adding or removing a handful of atoms, or twisting the material- It's like this ultimate toolkit. When you use it, you felt empowered; you felt like you could make anything. Nanotechnology can affect all parts of science and technology, from computing to medicine. 15 years ago, fantastic science was done, but it was never able to translate the science into new technologies, because the same thing that makes them interesting also makes them impossible to work with, their size.

On the other hand, technological progress is not gradual, is relentless, is exponential. If you compare a technology from one generation to the next, they're almost unrecognizable. Yet we know this progress may not last forever. In fact, the party's kind of winding down. And if we want to keep this party going, we have to do what we've always been able to do, and that is to innovate.

Finally, it was found that nanoscale objects are about the same size as molecules, so we can use chemistry to steer these objects around, much like a tool. By developing chemistry, billions of nanoparticles are arranged into the pattern needed to build circuits faster than the ones made with nanomaterials before. Chemistry is the tool used to handle the material that was impossible to work with.

Opinion

I find very interesting nanotechnology. Although it is not developed to find it everywhere, there are a lot of possibilities for it to be used in whatever you want. Reading the script of the video, I realize that I never thought about how difficult could it be work with the small particles. In fact, I hadn't thought that the term "nano" refers to the exactly size of them. So now I guess it is going to be more fascinating to me, by seeing how those very small things can change the world.

About the talk, I agree with the speaker, nanotechnology is the future, computing, medicine and engineering will be the fields where this science will grow up more and will finish some of the problems that we have today. For example, the use of nanotechnology for making environment-friendly industries, for fighting against diseases or replace a part of the body, for creating new material for building. Those are the most impressive applications I can think about and I guess could be possible.

New Words

Chipping	Chisel	Dust	Gluing	Compel	Odd
Breakthroughs	Buzzing	Hollow	Conundrum		