

# Powers of prophecy: Davos looks to the future

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Participants walk inside the Congress Center during the 43rd Annual Meeting of the World Economic Forum, WEF, in Davos, Switzerland, Saturday, Jan. 26, 2013. (AP Photo/Keystone/Jean-Christophe Bott)

(AP)—Forget the endless debates about the euro or government debts. What does the future hold? The World Economic Forum at Davos is always a showcase for new research, trends and ideas. And those at the annual gathering of the world's elite don't shy away from making predictions, even if they missed foreseeing seminal events like the Great Recession or the Arab Spring revolts.

Here are some predictions from this year's participants:

## WEATHER AND WATER

Climate change will lead to more and more extreme weather, which will cause tremendous economic upheaval, predicts New York University economist Nouriel Roubini.

"It's not just that New York is going to be underwater 30 years from now," he said, referring to the devastation caused last fall by Hurricane Sandy.

Oxford University physicist Tim Palmer—who said as a scientist he preferred probabilities to prediction—noted there is a 10- to 15-percent chance that the Earth will warm by 6 degrees Celsius within a century, leading to "catastrophic consequences for humanity" ranging from [extreme weather](#) to rising seas.

Vali Nasr, dean of the School of Advanced International Studies at Johns Hopkins University, said many countries will start running out of water in the coming years.

"Water is the new oil," he said.

## A TECHNOLOGICAL SURGE

Laura Tyson, a business professor at the University of California at Berkeley, said one of the great concerns should be "the employment effects of technology," with so many jobs being rendered obsolete by scientific or technological advances.

Discussions of such advances were everywhere at Davos.

Sebastian Thrun, a computer science professor at Stanford University and leader of Google's Self-Driving Car Project, said he thinks Google co-founder Sergey Brin's prediction that within five years driverless cars will be on the streets used by regular people is going to happen.

"It'll be a while before they're going to be mainstream, and there'll be all kinds of interesting questions coming about security, privacy, safety of the system as a whole," Thrun said. "But if they are available within five years for general consumers, I think within 15 years you ought to be able to buy one of those."



Professor of Economy at the New York University, Nouriel Roubini, gestures as he speaks during a session on Pundits, Professors and their Predictions, of the 43rd Annual Meeting of the World Economic Forum, WEF, in Davos,

Switzerland, Saturday, Jan. 26, 2013. (AP Photo/Michel Euler)

## MENTAL ILLNESS UNDERSTOOD

Edward Boyden, an associate professor at the Massachusetts Institute of Technology who directs a neural engineering research group, says new technologies for analyzing the brain will produce significant advances in fighting mental illness.

"Right now we know that certain cell types in the brain are impaired in schizophrenia, or bipolar disorder or autism," he said.

If scientists can develop new technologies to image the brain and control the brain's cells, he said "over the next half-century or so we should be able to really understand how these networks" generate emotion.

Then, in the case of mental illness, "we can insert information into the cells in order to re-sculpt their dynamics and fix what's broken," Boyden said.

Technology entrepreneur Eric Anderson said biotechnology and medicine "are eventually going to be information sciences, with your genes... will determine treatment."

## THE LIGHTEST STUFF

Julia Greer, an assistant professor of materials science and mechanics at the California Institute of Technology, says the world is craving a useful, ultra-superlight material to work with.

Her research group collaborated with Hughes Research Lab (HRL) and

the University of California, Irvine, to recently develop the world's lightest solid material. She predicted that in 10 to 15 years it will be used as fuel cell catalysts, as acoustic damping devices on submarines, as anti-reflective layers in solar cells, and as components of vehicles sent into space.

The new material, called a micro-lattice, is made up of tiny hollow tubes of nickel-phosphorous that are angled to connect—and contains 99 percent air, Greer said. It can also be used for high-temperature thermal batteries, heart stents and blood clot catchers, she said.

On a related topic, Roy Johnson, the chief technology officer for Lockheed Martin, predicted huge advances in 3-D printing.

## POWER TO THE PEOPLE

One of the most famous predictions is Moore's Law, named after Intel co-founder Gordon Moore, which says that computing power doubles every two years or so. It has proven stunningly correct so far, putting new technological devices in everyone's pockets.

But how long will this law hold? Paul Jacobs, the CEO of Qualcomm, said it's not so certain anymore.

The implications of effectively infinite computing power are staggering—no more waiting for a power-up or a download; every song, movie and TV episode instantly available; and even the possibility of what scientists call artificial intelligence.

But Jacobs told The Associated Press that the law might be valid only "a couple of more generations."

"I'm worried. In the next couple of nodes we're going to stop getting

those numbers unless somebody figures out something," he said.

## YOUTH OF THE WORLD UNITE

Former British Prime Minister Gordon Brown, now the U.N. special envoy for global education, said huge advances in the Internet and technology are enabling young people to connect with each other and "this is opening up the world in a way that has never happened before."

"Young people are beginning to see that the gap between the opportunities and rights they have been promised and the opportunities and rights that are delivered to them is wholly unacceptable," he said at a session on the forum's sidelines. "And the sense that they are being deprived of these opportunities and rights is, I think, going to be the big motivating force over the next few years."

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