



Smart Dust: Real-time Tracking Of Everything, Everywhere

TN Note: DARPA is a driver of Technocracy in the 21st Century. Its creation of computerized microscopic sensors no larger than a spec of dust will surpass the Internet of Things (IoT) by orders of magnitude. Known as “Smart Dust”, an area can be blanketed to achieve 100% real-time monitoring of everything in every nook and cranny. Also, Smart Dust can be incorporated in fabric, building materials, paint or any other substance use in construction, decoration or wearables.

The year is 2035, and Sgt. Bill Traverse and his team of commandos are performing a “sweep and clean” operation through a portion of the war-torn Mexico City. Their job is to find any hidden pockets of resistance and flush them out and back through the neutral zone or eliminate them. The drones that provide surveillance overhead cannot offer much support in the twisting alleys and passageways of the sprawling metropolis and the helmet-based HUD systems that soldiers are equipped with are useless in a city where all technical infrastructure was destroyed years ago.

Sgt. Traverse isn't navigating blind, though. He and his team use Dust, portable packets of sensors that float in the air throughout the entire city and track movement, biometric indicators, temperature change and chemical composition of everything in their city. The Dust sensors send information back to their HUD displays through a communications receiver carried by a member of the team. Traverse can tell, from the readings that Dust gives him, if there are people around the next corner and if they are holding weapons. His team can then proceed accordingly ...

This scene of Sgt. Traverse and his merry men is a fiction. The concept of Dust is not.

The idea of the Internet of Things is so passé. The general concept of the Internet of Things is that we can put a sensor on anything and have it send data back to a database through the Internet. In this way we can monitor everything, everywhere and build smarter systems that are more interactive than ever before.

Putting sensors on stuff? Boring. What if the sensors were in the air, everywhere? They could monitor everything—temperature, humidity, chemical signatures, movement, brainwaves—everything.

The technology is called Smart Dust and it's not quite as crazy (or as new) as you might think.

Smart Dust as a concept originated out of a research project by the United States Defense Advanced Research Projects Agency (DARPA) and the Research And Development Corporation (RAND) in the early 1990s. We use the military anecdote above because it was these military research groups that first conceptualized Smart Dust but the practical application of the technology can be applied to almost any industry. Dust in the fields monitoring the crops. Dust in the factories monitoring the output of machines. Dust in your body monitoring your entire state of well being. Dust in the forests tracking animal migration patterns, wind and humidity.

The entire world could be quantified with this type of ubiquitous sensor technology. But how does it really work?

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Obama Using Behavioral Science To Influence People's Behavior

TN Note: This is a very deep rabbit hole, but one that must be fully revealed. In 2014, Obama launched the Social and Behavioral Science Team (SBST) to allow technocrats to experiment with ways to mess with people's behavior, decision-making process and beliefs. Such tools in the hands of a government already demonstrating hostility toward its citizens are extremely dangerous.

For the past year, the Obama administration has been running an experiment: Is it possible to make policy more effective by using psychology on citizens?

The nickname is “nudging”—the idea that policymakers can change people’s behavior just by presenting choices or information differently. The classic example is requiring people to opt out of being an organ donor, instead of opting in, when they sign up for a driver’s license. Without any change in rules, the small tweak has boosted the number of registered organ donors in many states.

Nudging has gained a lot of high-profile advocates, including behavioral-law guru Cass Sunstein and former budget czar Peter Orszag. Not everyone likes the idea—“the behaviorists are saying that you, consumer, are stupid,” said Bill Shughart, a professor of public choice at Utah State University—but President Obama was intrigued enough that he actually hired Sunstein, a law professor at Harvard who co-wrote the best-known book about the topic, “Nudge.”

The president officially adopted the idea last year when he launched the White House’s Social and Behavioral Science Team (SBST), a cross-agency effort to bring behavioral science research into the policymaking process. Now the team has published its [first annual report](#) on this experiment.

How did it go? Mostly, the efforts appear to have worked, though it’s hard to know how much impact they’ll have. In part this is because the SBST’s efforts are small—just 15 proof-of-concept projects in its first year—and limited by agencies and laws in how bold they could be.

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‘Psychic Robot’ Will Read Your Intentions By Your Movements

TN Note: Advances in science can have tangible benefits to serve humanity, but in the wrong hands, the same technology can be used for nefarious ends. Psychic robot technology will likely find a broad role in corporate, military and police applications.

What if software could steer a car back on track if the driver swerves on ice? Or guide a prosthesis to help a shaky stroke patient smoothly lift a cup?

Bioengineers at the University of Illinois at Chicago have developed a mathematical algorithm that can “see” your intention while performing an ordinary action like reaching for a cup or driving straight up a road — even if the action is interrupted.

The study is published online in the journal PLOS ONE.

“Say you’re reaching for a piece of paper and your hand is bumped mid-reach — your eyes take time to adjust; your nerves take time to process what has happened; your brain takes time to process what has happened and even more time to get a new signal to your hand,” said Justin Horowitz, UIC graduate student research assistant and first author of the study.

“So, when something unexpected happens, the signal going to your hand can’t change for at least a tenth of a second — if it changes at all,” Horowitz said.

In a first test of this concept, Horowitz employed exactly the scenario he described — he analyzed the movement of research subjects as they reached for an object on a virtual desk, but had their hand pushed in the wrong direction. He was able to develop an advanced mathematical algorithm that analyzed the action and estimated the subject’s intent, even when there was a disturbance and no follow through.

The algorithm can predict the way you wanted to move, according to your intention, Horowitz said. The car’s artificial intelligence would use the algorithm to bring the car’s course more in line with what the driver wanted to do.

“If we hit a patch of ice and the car starts swerving, we want the car to know where we meant to go,” he said. “It needs to correct the car’s course not to where I am now pointed, but [to] where I meant to go.”

“The computer has extra sensors and processes information so much faster than I can react,” Horowitz said. “If the car can tell where I mean to go, it can drive itself there. But it has to know which movements of the wheel represent my intention, and which are responses to an environment that’s already changed.”

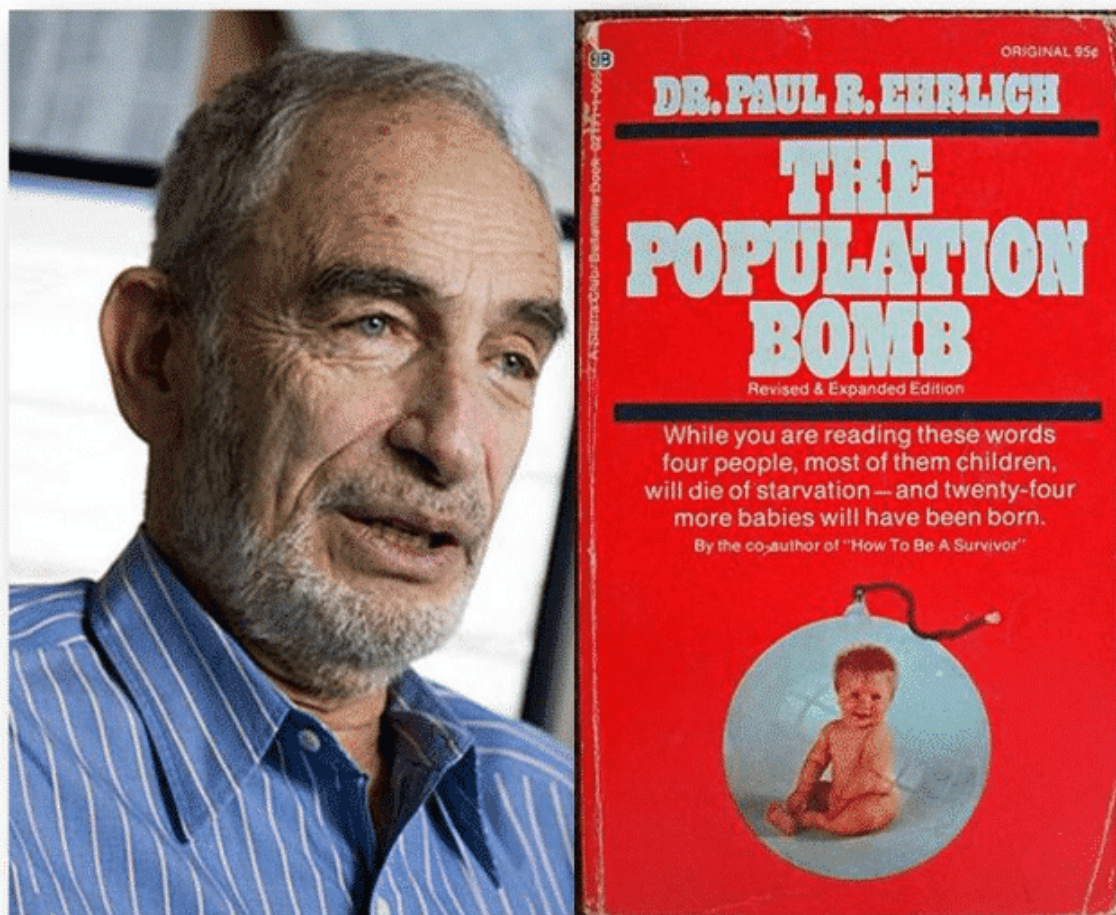
For a stroke patient, a “smart” prosthesis must be able to interpret what the person means to do even as the person’s own body corrupts their actions (due to muscle spasms or tremors.) The algorithm may make it possible for a device to discern the person’s intent and help them

complete the task smoothly.

“We call it a psychic robot,” Horowitz said. “If you know how someone is moving and what the disturbance is, you can tell the underlying intent — which means we could use this algorithm to design machines that could correct the course of a swerving car or help a stroke patient with spasticity.”

James Patton, professor of bioengineering, is principal investigator on the PLOS ONE research article. The study was performed at the Rehabilitation Institute of Chicago and supported by National Institute of Neurological Disorders and Stroke grant NS053606.

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Paul Ehrlich Calls Pope's Climate Push 'Raving Nonsense' Without Population Control

TN Note: Ehrlich sold millions of copies of his 1968 book, Population Bomb. Notably, not one single prediction he made has come true. His scientific discipline was entomology, or the study of insects.

One of America's leading scientists has dismissed as "raving nonsense" the pope's call for action on climate change - so long as the leader of the world's 1 billion Catholics rejects the need for population control.

In a [commentary in the journal Nature Climate Change](#), Paul Ehrlich, a senior fellow at the Stanford Woods Institute for the Environment, argues that Pope Francis is simply wrong in trying to fight climate change without also addressing the additional strain on global resources from population rise. "That's raving nonsense," Ehrlich told the Guardian. "He is right on some things but he is just dead wrong on that."

The critique in "[Society and the Pope's encyclical](#)", part of a special package from scientists on the encyclical, marked a rare note of dissent from scientists and campaigners. Many hope that the pope will drive home his [call to action on poverty and the environment](#) in his speech to Congress on Thursday.

Ehrlich, in his Nature Climate Change commentary, accuses Francis of a dangerous flaw in his indictment of consumerism and its effects on the poor and the environment. The pope had fallen for the usual clerical "obsession" with contraception and abortion - when he could have instead broken new ground on the Catholic church's approaches to women's reproductive rights and family planning.

The broadside exposes some of the difficulties of embracing a figure such as the pope - for those on the left as well as the right.

Conservative allies of the pope, on issues such as same-sex marriage and abortion, have balked at his denunciation of capitalism and call to action on climate change.

Those thrilled by the pope's intervention on climate change - and Ehrlich counts himself among them - were troubled by Francis's refusal to countenance the need to limit population, the scientist said. "It is crystal clear. No one concerned with the state of the planet and the state of the global economy can avoid dealing with population. It is the elephant in the room," he said.

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