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The Long Now: Planning for a future 10,000 years away

What one foundation is doing to encourage long-term thinking.

Nicole Lee, @nicole
05.24.17 in Personal Computing

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A prototype of the Orrery (a mechanical model of the solar system that's part of a 10,000-year Clock) sits at the entrance of The Interval, a bar owned by The Long Now. *Because We Can*

In an age of self-driving cars, virtual reality worlds and artificial intelligence, some would say the future is already here. Technology moves at such breakneck speeds that companies in Silicon Valley often have product roadmaps that stretch five to ten years ahead. But what about decades? Centuries? Millenia? In the search for the next big thing, we often lose sight of the even bigger picture: of how the actions of today can affect our great-great grandchildren of tomorrow. The Long Now, however, is a foundation that aims to correct that.

Created in 1996, the Long Now is a San Francisco-based non-profit organization dedicated to long-term thinking. Among its founders are

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of The WELL (an online community that's been around since 1985); Danny Hillis, a computer theorist who worked on the idea of parallel computers -- the basis for supercomputers and RAID arrays; and Kevin Kelly, the founding executive editor of *Wired*.

"They were all kind of part of Silicon Valley, realizing that a lot of things were happening that were not allowing for some of the longer-term issues in society that needed to be addressed," said Alexander Rose, executive director of the Long Now. "There wasn't an excuse to think of certain things in long enough terms, like climate change or hunger. None of these things have a 'return on investment' as it were. We were just writing them off as things we weren't going to deal with. And if we're going to address these large and important issues, we need to have a frame of reference."
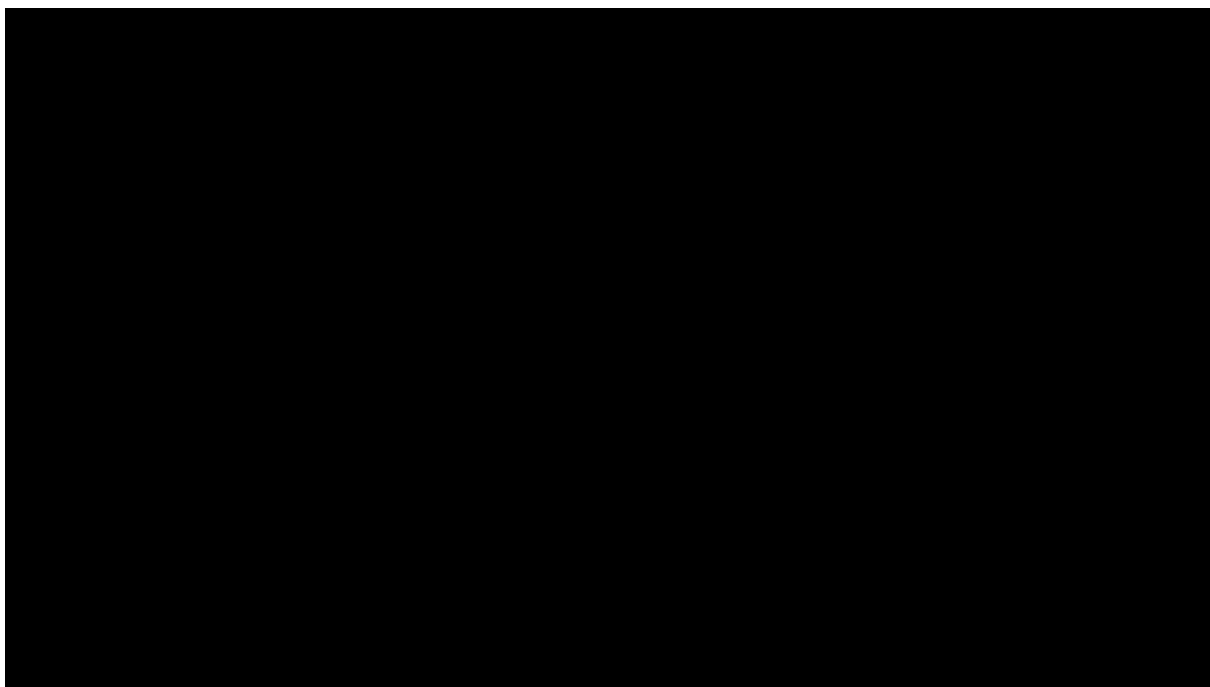
Clock One: Winder & Main Differential from The Long Now Foundation on Vimeo.

This prompted Hillis to have an idea for a 10,000-year clock, which would be the first-ever project of the Long Now. "I want to build a clock that ticks

cuckoo comes out on the millennium. I want the cuckoo to come out every millennium for the next 10,000 years."

If that sounds like fantasy, well, it isn't. The clock is real, and it's being built in the mountains of western Texas, on a plot of land owned by none other than Amazon founder Jeff Bezos. The entire clock will be mechanical, made out of stainless steel, titanium and ceramic. It will chime every thousand years, and thanks to a special melody-generator, the chimes are programmed never to repeat.

The composer behind the tunes is musician Brian Eno, who also coined the "Long Now" name of the foundation. Stewart Brand writes that it indicates "not the short now of next quarter, next week, or the next five minutes, but the 'long now' of centuries." Rose was hired to work on the prototype in 1996 -- essentially the Long Now's first employee -- and has only now just finished most of the underground excavation. There is no timeline for completion; it'll be done when it's done.

But why go through all this trouble? The purpose is to get people to ask that question; to prompt themselves to think about time in the frame of centuries and generations, rather than weeks and months. "If a clock can keep going for ten millennia, shouldn't we make sure our civilization does as well?" asks Brand. The clock is thus a symbol, an icon to long-term thinking. "That is really what the Long Now is all about," says Rose. "Our hope is to inspire people to think in a different time frame."

The Rosetta Wearable Disk from The Long Now Foundation on Vimeo.

The Clock, as it is known, is not the Foundation's only project. Over the past decade, the Long Now has launched a series of different ventures, some more ambitious than others. There's the Rosetta Project, which started as a collection effort of parallel texts and information in thousands of different languages, which the foundation then micro-etched into a tiny three-inch solid nickel disk using the same technology as silicon chip fabrication. On this disk is more than 13,000 pages of information in more than 1,500 human languages. All you need to read it is a microscope. The purpose of such a project is to keep these languages alive, tens and thousands of years into the future.

Perhaps the most controversial is a project co-founded by Brand called Revive & Restore, which aims to bring extinct species back to life through a process known as de-extinction. Using methods like genome mapping and genetic engineering, the team hopes to revive extinct species in order to "preserve biodiversity and genetic diversity," and also to undo the harm that humans have caused in killing them off in the first place. Right now, they're working on bringing back the passenger pigeon, the heath hen, the black-footed ferret and even the wooly mammoth.

One of the reasons this project is perfect for long-term thinking is that de-extinction is a science that will likely take years, if not decades, to implement properly. Not only is the actual genome mapping a chore -- turns out harvesting DNA from ancient parts is pretty difficult -- there also needs to be studies done on whether it's a good idea. After all, the world has changed a lot since these animals died off and many living species

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Projects aside, perhaps the one venture that the Long Now is most known for is its ongoing lecture series, where it invites experts from around the world to talk about topics in the long term -- be it predictions of the next 30 years or how certain industries can benefit from thinking so far into the future.

Kevin Kelly, for example, gave a talk recently about the next 30 digital years, where he talked about how you can apply long-term thinking to today's fast-paced technological world. Observations include how the shift in the industry is moving more toward services rather than products, and that we're all in a perpetual newbie state because there's always something new to learn. He also talked about the rise of artificial intelligence and machine learning, and how it doesn't really replace us so much as helps us. He posits that, in future, we'll all operate as sort of "cybercentaurs," where we'll be part human and part AI. "The best doctor diagnosticians are not Watson, or AI -- it's the team of doctor and AI," said Kelly. "We're going to be paid by how well we work with AI."

Rose has his own thoughts about how technology companies can benefit

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infrastructure records ... all of these things go into these data formats that are owned by these companies," says Rose. "We're talking about data that we would want in a thousand years. These companies need to take that responsibility very seriously. They think of themselves as technology companies, but actually what they are now are infrastructure companies."
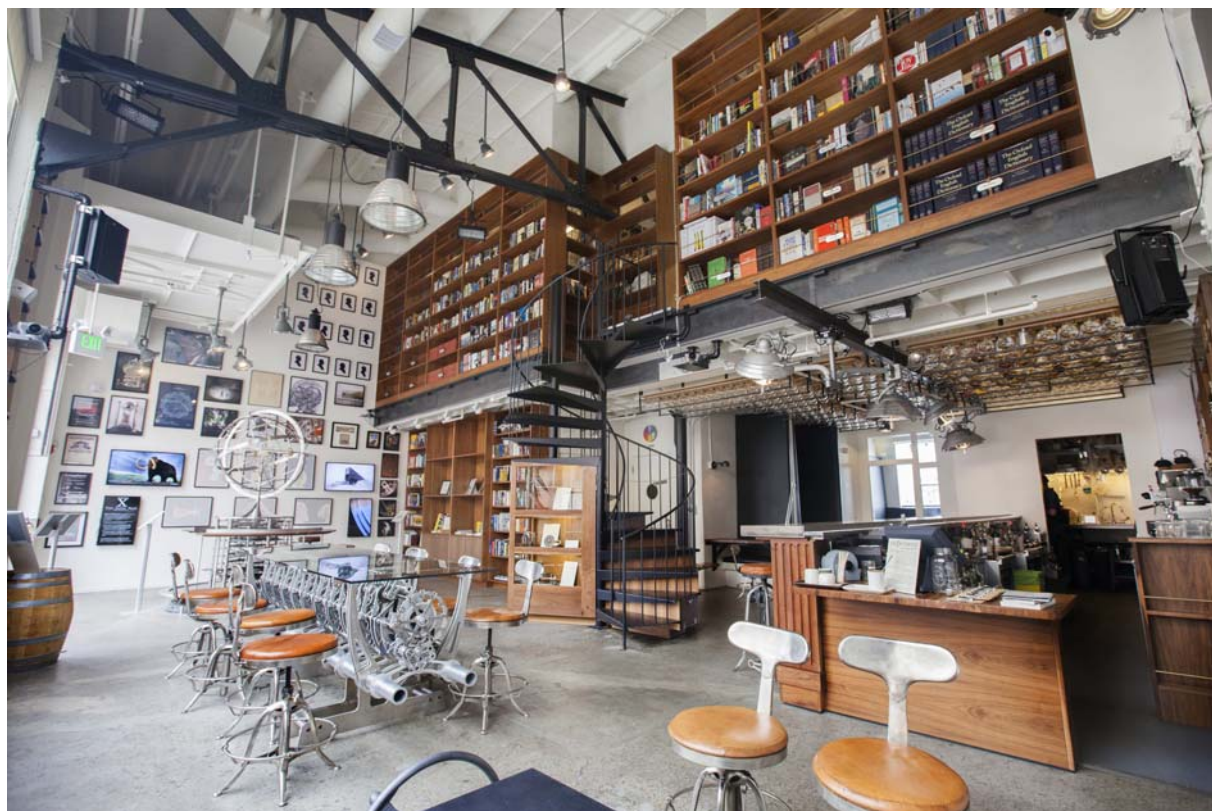
[Photo credit: Because We Can]

Of course, one of the issues with technology is that it's always evolving, so it's hard to predict about what will happen tens of years down the line. "There was a very strong belief in the early days of the internet that all we had to do was connect everybody and then everything was going to be great," Rose says. "We're just now learning that there are downsides to connecting everybody.... there used to be a world where all the news went through three major news agencies with hundreds of people doing fact checking for every single thing. We were annoyed by that, but they were doing it in a way that's vastly more careful and researched than what we

He added: "It is very new to us, this idea of where all communication is infinite and free and instantaneous. I believe we're not good at it yet."

By its very nature, the Long Now is always looking to the future. Three years ago, it opened The Interval, a bar in San Francisco that serves tea and coffee by day and cocktails by night. It serves two functions: as a venue for Long Now events and as a public space for anyone and everyone to come together to discuss long-term thinking. The Interval also houses a small collection of artifacts from several Long Now projects. Upcoming talks include how to be prepared for a catastrophic event ("Imagining catastrophe from the Cold War to Bird Flu") and what geological records tell us about the human relationship with the natural world.

When asked what he thought would be good lessons that people take from long-term thinking, Rose says he thinks we're far better off creating "principle-based systems rather than rule-based systems." "One example is the Bill of Rights," he says, pointing to an example of a principles-based system. "It's a page and a half document. It's very simple. It was designed to be reinterpreted by every generation into the future. That's one way of making the law."

"Another way of making the law is a twelve-hundred-page health care law that no one's ever read that is self-contradictory," he added, commenting on the recent health care repeal bill. "One trusts the future. The other doesn't."

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By Nicole Lee
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Raised in the tropics of Malaysia, Nicole arrived in the United States in search of love, happiness and ubiquitous broadband. That last one is still a dream, but two out of three isn't bad. Her love for words and technology reached a fever pitch in San Francisco, where she learned you could make a living writing about gadgets, video games and the internet. Truly, a dream come true. Other interests include baseball, coffee, cooking and chasing after her precocious little cat.

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