

A photograph of Brian Eno, a man with glasses and a dark jacket, speaking on a stage. He is looking upwards and to the right, with his hands clasped in front of him. The background is dark with some greenery visible on the left.

**WE ARE TINY. WE
ARE IMMATERIAL.**

BRIAN ENO

Complexity and intelligence grow from simplicity rather than from greater complexity. Simple things can give rise to very complex things.

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Brian Eno has some dangerous ideas about the world at large, and he learned a few of them from Darwin. What if we subscribed to Darwin's ecological picture of the world? We are tiny. And we occupy only a sliver of time.

Darwin's theories included some of the most counterintuitive ideas of the last millennium, according to Brian. To begin with, all life is interconnected and interdependent. It's also important to remember there is no privileged point of view. There are a million other species. Humans are not at the top of the pyramid. Finally, we should not be thinking about an intelligence that shapes a reality, rather a reality that creates an intelligence—a shockingly radical idea, noted Brian. And as humans, we back into the future.

We make decisions based on the kind of world we feel we live in versus a world that we can describe.

We have just started to realize, in the last 20 to 30 years, the precious and beautiful ephemera that we have in the world. Brian's charge for the future: What Darwin did for natural history is what we now need to do for human culture.

A few questions that intrigue Brian: What is it that changes people's minds? What makes them think differently? What makes them live in a different way?

He believes culture is one of those things that can make change. Brian explains, culture is a place we create in which we can surrender. A place that's deliberate and safe. A place where you can try out another way of thinking and being. One such cultural event that changed Brian's life was hearing the musical composition "It's Gonna Rain," by Steve Reich. It's a composition that simply loops the same phrase throughout: "It's gonna rain. It's gonna rain. It's gonna rain."

1

You don't need much material.

2

You don't need much composing.

3

The real composer is in the audience's **brain**.



What becomes thinkable in art becomes thinkable in life.



Darwin's ecological picture of the world is a model and roadmap for human culture now and in the future.



Humans are not at the top of the pyramid. There are a million other species in the world and there is no privileged point of view.



We (all species) are interconnected and interdependent.





PLAYERS AS

CREATORS.

WILL WRIGHT

We can gain a way of understanding the world using simple rules.

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From Will Wright's point of view, we can gain a complex way of understanding the world using very simple rules. Ever since we have had the ability to customize our desktops, we've been creating expressions of our identities, creating a "curve" of creation that started at crap and ended at something better. The trend in game development started the same way.

Wright uses the term "player" to describe those of us who create. According to his experience, players love making and sharing their content. Instead of the players building static models that participate in a game, today's paradigm is one of

games creating the players. Games become a measurable, formalized environment offering loads of data that suggest players spend much more time building complexity into their models. In that sense, computers become a creative amplifier for the player.

In a demonstration of his new game *Spore*, Wright created a creature with a few mouse clicks, and the computer fills in the basics of evolution. The game takes it from there. In the space of a few minutes, Wright not only hunted and mated, but he created a vehicle that was able to explore other lands, planets and galaxies.

I was very interested in the patterning data that Will's organization is collecting. How are their users behaving at a cultural, interpersonal level? How will those patterns express themselves (in terms of work style, culture, orientation to collaboration, competition, expectations, etc.) when this generation shows up in the business world?

Marybeth Tahar, Interaction Associates





GENERATIVE GENERATIVE GENERATIVE GENERATIVE

Brian and Will both credited John Conway's *Game of Life* with instilling an early fascination in generative systems. The *Game of Life* is a "zero-player game" set, meaning the evolution of the system is determined by its initial state and requires no outside input from humans. Both speakers were inspired by the variety and complexity of patterns that can evolve from simple generative rule sets.

Brian is especially interested in applying principles of emergence and self-organization to aesthetics. His work "77 Million Paintings" is a piece of generative audiovisual art software that selects and mixes—according to an internal logarithm—from a bank of almost 300 images. The data creates a series of ever-shifting patterns and images numbering into the tens of millions.

Will applies these same principles to his blockbuster videogame series, *The Sims*. His games function as generative systems with complex variables and levels that emerge to create entire cities from a set of very simple rules.

So much can come from simplicity...

TECHNOLOGY'S EMBRACE

KEVIN KELLY
MARIANNE WEEMS
HASAN ELAHI

So is it a force for good or evil? Well, neither and both.

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Kevin Kelly, Marianne Weems and Hasan Elahi are approaching the question of surveillance in a technological world through distinctly different methods. Whereas Kelly treats technology in a Darwinian sense by asking what technology wants at every level, Weems and Elahi are investigating what technology does to us at every level. There were striking parallels between the three presentations and a chilling blurring of lines between real life and art. Weems presented her piece on a surveillance state while Elahi lived out his own full disclosure art project in the midst of an FBI search. Kelly asked if there was a technological determinism while Weems posited

that humans can no longer “look” and “see” in life without mediating the experience with some kind of technology.

So is it a force for good or evil? Well, neither and both. Kelly asked the question in the broadest sense and found that technology was like a child. Just as a child has the capacity for good with a proper upbringing, so too can technology become a tool for greater transparency, openness and opportunity. What do we do then, if this technology falls into the hands of people we may not trust? What if those people are assigned to be our protectors?

Elahi suggested that the surveillance problem really only gets difficult—beyond the problem of our dogs, children and beloved old granny—when we are talking about keeping tabs on people we don't like and people who don't like us. Weems presented a disturbing satire of Claritas Marketing that found that we are, to marketers at least, only a series of snapshots capturing what we buy.

At the base level, according to technology, “we” are really just a series of algorithms. Perhaps that is what is most dangerous about technology, its inability to interpret, imagine, and intuit. We assume that increasing amounts of data will help us to “know” people and their natures better. In Elahi's frightening story from the Detroit Airport, data was assumed to be a neutral, impartial source of truth. What was revealed, however, was the vast difference between pattern recognition, data extrapolations and “knowledge.” As Elahi attested, the truth came out in the foggy terrain of cultural reference points and body language; those muddy concepts that we can't quite seem to digitize.

In the Question and answer session, Kelly asked Elahi if he learned anything about himself that he didn't

already know. Technology and the resulting 24/7 surveillance give us more information than our puny brains can even comprehend and process about ourselves. Just as last year, when we witnessed Graham Flint's gigapixel photographs which gave us more information than we were able to see with our own eyes, Elahi's self-documentation is capturing aspects of a life he didn't even know he was living.

Weems is bringing a greater truth to the theater, or space for “seeing,” by introducing a mediated environment. Kelly is asking us to imagine seeing the world through technology's eyes and Elahi is asking us to see *him* in ways he can't even see himself.

We are coming full circle at Pop!Tech and it's only the first day. In the morning, we questioned why we have artists at all when we can create with regenerative systems and then surrender them to their iterations. In the afternoon we discover that, sometimes, it's only the artist who can find a compelling meaning behind all those reams of 1s and 0s.





Nobody is as smart as everybody.

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In a formative period of his life, Kevin Kelly was a nomad with a backpack. He held technology at arm's length and still does. The curious thing Kevin noticed: the people who had little access to technology were very happy. However, when technology was available, people would grab it as much as possible. And he witnessed how technology could really change people for the better.

So Kevin decided to look at the world from technology's point of view. He said it's hard today to determine where technology ends and where culture begins. The computing power of the Web is going to exceed that of all humans. When? By some estimates, between 2020 and 2040. And we will soon be dwarfed by the collective intelligence of all the things we're creating. Kevin believes that humans are also getting smarter. "Nobody is as smart as everybody," he said, citing Google and Wikipedia as examples.

Kevin offered a working definition of technology. Anything we make is technology. And, our humanity is our greatest creation, says Kevin.

Kevin believes that technology has its own agenda. And the natural question we have to ask is, "What does technology want?"

Technology wants certain things:

- To increase density and power.
- To be copied and replicate easily without restraint.
- To not be prohibitive.

Also, technology wants similar things as evolution:

- Ubiquity
- Diversity
- Specialization
- Complexity
- Socialization

Technology has some interesting characteristics. Technology will alter its environment to maximize itself and suit its needs. It is self-correcting. And once technology is introduced, it hardly ever retreats.

A dangerous idea from Kevin: We have a moral obligation to let technology increase.