BG 196: The Technium

by Kevin Kelly

Episode Description:

We're joined this week by celebrated technologist and co-founder of Wired Magazine, Kevin Kelly. Kevin shares how he went from a back-to-the-lander hippie in his early youth, to becoming one of the most important technological thinkers alive today.

We then explore one of the central ideas of Kelly's technological philosophy, what he calls the *technium*. He shares how the technium can be dated all the way back to the beginning of the universe, and explains how the technium—a type of super-organism of interdependent technologies—can actually increase degrees of freedom and choice in the universe. Closing up the conversation we discuss whether the technium is a neutral force, or if it has some inherent goodness.

This is part 1 of a two-part series. Listen to part 2, The Wise Use of Technology.

Episode Links:

- KK.org
- *What Technology Wants*
- *Out of Control: The New Biology of Machines, Social Systems, & the Economic World*
- Wired Magazine
- Ted Nelson
- The Technium

Transcript:

Vincent: Hello, Buddhist Geeks. This is Vincent Horn, and I'm very excited today to be

joined over Skype with Kevin Kelly. Kevin, thank you so much for taking the time to speak with the Buddhist Geeks.

Kevin: It's my pleasure and honor to be here.

Vincent: Yeah, and we were just talking before the interview, and it sounds like you, through some interesting fortune, were part of a group that actually spawned kind of the beginnings of the American Buddhist movement. You're not a Buddhist yourself, but you were kind of in this scene, the New Age Journal, Whole Earth Catalog, and there are people like Rick Fields who are writing for these different publications along with you. And I found that really fascinating that you've been part of this separate movement that we're associated with. So that's really fascinating.

Kevin: Yeah. The kind of slow rise of Buddhism in America has very deep roots, but there was a phase in the '70s and '80s when there was a lot of writing, movement, building of organizations, kind of conceptual work that was being done in publications like New Age Journal, Tricycle, the Whole Earth Catalog. And since I was editing or writing for those, I was bumping shoulders with those folks, and for all I know, I might have been influenced by them.

Vincent: Cool. Well, maybe we'll find out here in this interview. [laughs]

And so, just a little bit of background information, too, for the Buddhist Geeks: You're the Senior Maverick at Wired Magazine, you helped co-found Wired in 1993. You also have an incredibly popular website, kk.org, and on there is the Cool Tools website, which looks like gets half a million unique visitors per month, so half a million geeks coming to that site every month to check out the tools. And you're also an author. You've written several books, and the newest one is one that we wanted to speak with you about today, and it's entitled "What Technology Wants."

Kevin: That's correct. And I had another book called "Out of Control" that was released, or at least written, 20 years ago, and in some ways has become more popular now than when it first came out, which is a book describing the powers of bottom-up decentralized organizations, and the way in which their slightly out-of-control systems are actually to our benefit. It's a very geeky book, and still relevant, I think.

Vincent: Wow, cool. So it sounds like it may have been a little bit ahead of its time when it came out, since it's becoming more popular as it gets older.

Kevin: Yeah. Exactly. It was sort of ignored when it first came out, because it seemed to kind of– another Californian wild-eyed utopian vision of the future that basically has come true.

Vincent: [Laughs] And, as a leading technologist, now you're someone that's incredibly well-respected for your perspectives and ideas on technology, in part because it seems like you've gotten it right a lot of the time.

It's interesting, though, because you acknowledge that in your younger adult days, you had a really love-hate relationship, actually, you had more of a hate relationship, it sounds like. Not necessarily hatred, but just not being very interested in technology. You write that you spent almost eight years traveling remote parts of Asia, living really simply, almost like a monastic type of lifestyle, and that later on you came to incorporate technology back into your life. But you still–sounds like you keep it a little bit at a distance. And I was wondering if you could say a little bit about that paradox of not wanting to be overrun by technology, and then also wanting to be connected to this deeper something that was part of your travels, I guess?

Kevin: I kind of fell into a little bit of the ethos of the hippies in the late '60s and early '70s, which was really–kind of sense of dropping out of this sort of system of not just technology, but of the entire corporate industrial complex. And I grew up in suburbia, which I didn't really like, and there was the whole "well, let's drop out and remake our own civilization in the woods," which was the hippie thing, and we'll dig our own wells and build our own houses by hand, and return to kind of a simpler time, which I actually participated in. I actually did build a house by chopping down the trees and making lumber out of it, and hauling the stones from the creek. It was a very large house, not just a little cabin.

Before that I was travelling with very little, and riding my bicycle across the country and things like that, in which I found a peace, I guess I would call it, with having very little, and, I think, identified with people like the Amish and my fellow hippie back-to-the-landers. And that was sort of one side, and it was very comforting and very strong, and that was my identity I think. And maybe I'd still be there, but I got involved with the Whole Earth Catalog, which had an open view to technology. It was called access to tools. That was the subtitle of this bible of the back-to-the-landers and it said, "hey I if you're going to dig a well, you should at least used the right hand tool and you should be aware that there are Aladdin's lamps, which are superior to your normal kerosene lamp. These are hi-tech kerosene lamps. They, through some ingenious device, actually make a flame that's ten

times as bright using just kerosene and no moving parts, and if you're going to burn kerosene you might as well use one of these." And so there was selection process saying, "hey ok keep it to a minimum but find the best tool for the job." And we are calling it appropriate technology.

There was actually Buddhist philosophers like EM Shoemaker and others who were talking about, "Small is beautiful, simple is beautiful" And that was part of the philosophy. But I think what it did is kind of open up for me, the door into the idea that some technology was better than other technology, and that some was very appropriate. That you could select the right technology and the right technology could be very sophisticated.

So the Whole Earth Catalog was actually, probably the first lay publication too actually review or talk about personal computers. Because it addition to the bee-keeping equipment and the macrame supplies, and the instructions on home schooling, the most expensive thing reviewed in the Whole Earth Catalog was a $5,000 calculator. Basically, it was HP scientific calculator which was the closest that anybody could come to a personal computer in the early '70s.

So the Whole Earth Catalog went on, and I was involved with that when we started to review the early personal computers and the software for them. No one else was doing that, so Stewart Brand I would have to say lead with the charge in deciding that computers, at least a personal version of them, could actually be appropriate tools. Until that moment computers were sort of written off as "the man", "the big brother," the thing that you are going to avoid. But Stewart understood intuitively that the personal version of that were actually tools that augmented individuals that were liberating. And we ran things like Ted Nelsen's manifesto about the liberation of computers. So there was a bunch of people who were kind of seeing these things in a different way.

And I think what happened was that the computer chip and then of course the computer network really revealed to us a different face on technology that we'd never really seen before. Until that time big and powerful technology had a kind of industrial, inhuman scale, a kind of frightening power. But something about the chip, and then particularly the chip connected to the phone system, felt more organic. It felt much more lifelike. It felt much more at the scale of humanity. And it became easier to embrace and the more we embrace it the more we saw of ourselves, and I think that change my mind about this technology. Understanding that it didn't have to be concrete and bulldozers and chemicals, that there was actually another side. And once I saw the other side I began to

see those other things like concrete and bulldozers in a different light.

Vincent: At that point had Wired already sprung forth?

Kevin: No. In chronological order, I was involved with the personal computers and the online world from ‘81, I think I was online and then we got involved in starting The Well, which was the first public access to the internet in ‘85 or so. I start writing about the culture around technology in ’87, ’88, ‘89 around there. And then I did something called Signal, which was a kind of precursor to Wired. It was this catalog and special issue that was kind of bring together all the different subcultures that were around or forming around these new technologies. The Xeroxed Zines, Fox Network, bulletin boards, CB radio, all this kind of stuff. And that showed that there was some appetite for this. And I met Louis and Jane, who had similar ideas about doing a real magazine.

The magazine I was publishing was kind of a newsprint 2.0 version, because we actually were writing a publication that was user-written and user-supported, so there was no ads. It was all written by the users, and then read and paid for by the users. The stuff that we ran reads exactly like a blog posting now. At that time it had an incredibly powerful effect upon people, because you didn’t see it anywhere else in print. It was passionate amateurs and enthusiasts writing about what they loved and knew about, on very interesting things that you never had heard of, and with minimal editing, and a lot of selection on our part, though. So it was like reading the Best of the Web 20 years before there was the web. For those who kind of got it and understood it, it was a lifeline.

And so, Louis and Jane, the co-founders of Wired, came along and they said, “Hey, we can take this same stuff, but we can add color and gloss and advertising and production values, and it’ll be a hit.” And I thought, “I don’t know, but I’ll give it a try.” And they were right. You put people on the cover instead of just ideas; you wrap people around the ideas. I was talking to the same people, doing the same kind of stuff, but now we had an audience in the millions, and that was weird in many ways, but just showed that the geek part of the culture had just gone mainstream. And I think it wasn’t the geeks’ move; I think the mainstream moved to the geeks.

Vincent: Interesting. And now almost two decades later, you’ve continued down this interesting alley of exploring technology. And your most recent book, “What Technology Wants,” there’s some really, really powerful ideas in there. And one of the central ones is of what you call the technium, and I was wondering if you could share a little bit for us

about what the technium is, and then also how it's different than how we normally think of technology?

Kevin: Yeah. So, the way I like to kind of explain the technium is to suggest that it's as broad as what we would say culture is, because it includes most of the things we've made with our minds, including, of course, all the hardware and infrastructure, roads and electricity and cars, and chemicals and vacuum cleaners and bookshelves and all that. That's all part of this larger thing, but what I'm calling the technium is different from that in two ways. One, it is more than just the set of all those things. What I'm suggesting is that all those parts that we have made are so interdependent, they require each other to be invented and to exist. And so, the iPhone that you have in your pocket would require thousands of other intermediate technologies to invent it and to keep it running. And it is like a web of different technologies, plural, and that web or super-organism or super-structure has its own agenda, which is, again, how it's different. It has its own dynamics, its own biases. And I give the name of the technium to that thing to indicate that it's not just a bunch of technologies that are in a set collected, but they actually interact as if it was a living ecosystem. And so I think of the technium as an ecosystem of all these technologies that are supporting and maintaining each other. Unlike culture, this technium has its own inherent biases and tendencies, and the book, "What Technology Wants," is exploring what those tendencies are.

Vincent: And one thing I was really struck with, just early in the book, was the observation that the technium began, really, at the Big Bang, it sounds like, the technium sort of was started. Could you talk about that, and how that makes sense, since when we look around, we see human technology and humans only coming online very recently?

Kevin: Yes. And so, what I try to do is to place–let's call it the technium, this superorganism or this ecology of technology–in the context of life, and life itself, in the context of the Big Bang.

If we look at the history of the universe, there is this remarkable thread of self-organization that's moving through it, and from however it started, at the Big Bang, most of the universe is running down in entropy, and that seems to be the universal law of the universe, without exception, things run down. Except that there are these pockets of persistent ordering. The system is sort of creating entropy at a very high rate, and that accelerated generation of entropy actually is compensated for by increasing order. And we have things like galaxies which have maintained their order and created additional order over billions of

years, and stars, which are these self-sustaining, self-generating machines that actually produce increasing order in that they make heavier atoms from lighter atoms, and are building up molecules. And out of those built-up molecules we get planets, and they can actually self-organize into atmospheres. And at least on one of those planets, and probably billions of those planets in the universe, we have the emergence of life, which it… again, it self-creates, self-organizes into these self-sustaining patterns that we call life and evolution. Over 3.7 billion years on Earth, that self-organization has self-organized or self-created increasing order, I call it exotropy, and in the face of accelerated creation of entropy around it. And so those little threads of increasing order have been running on this planet for 3.7 billion years, and now the technium–the life made sort of minds, and out of our minds we are participating in that self-organization by creating increasing complexity and order in the technium. In that way, the technium, or the stuff that we've made–all these gadgets and all the other things filling the world–are basically extensions of the cosmic evolution force, the self-organization that's running through the universe and life, and now through the technium. It's sort of the latest version of that process.

I think that's important to keep in mind, because a lot of us, especially on the geek side, are involved in making new things, technology, or just new gadgets that aren't around very long, or there are websites that are up and gone. There's a kind of ephemeral feeling to a lot of what we make, and particularly at the other end where we're consuming it or trying to sell it. And I think sometimes that can feel very belittling or maybe like we're just spinning wheels, but in fact I think we're actually participating in this longer cosmic journey, which is to increase the species and diversities of things in the world, to increase possibilities, to increase options and degrees of freedom. And for that we should have an open-arm embrace.

Vincent: Interesting. And I know from reading the book that the answer to this is "no," but I'd love to hear you kind of explain why, and that is: Is this vision of the technium utopian?

Kevin: No. Yeah, I'm not big on utopias, and I think one thing that any candid appraisal of technology would have to acknowledge is that every new technology is creating nearly as many problems as it is solving. And most of the problems in our lives today are technogenic, they've been generated by previous technologies. It suggests very clearly that most of the problems in the future will be technogenic, created by technologies that we've made today. For that reason alone, it's not utopia, and where we're headed is not a place where there are no problems or technology solves, mends everything so that we kind of live in this state of bliss. Or, it's not even to suggest that there's some endpoint in

evolution, or some Omega Point where we're all headed and everything is fixed and works perfectly, or it's, in some ways, culminated in perfection. First of all, there is no endpoint in evolution–in fact the point of it is that there is no endpoint, that it's an open-ended process of continual flux and change and more importantly that the nature of the change itself is changing. So in that way there's no utopia, but also part of that internal flux is the fact that problems are constantly being invented as well as solutions.

However, saying that I do think there's a moral dimension to technology and that comes in the fact that while it's true that newly affected technology will create as many, rarely as many problems as solutions, it's not neutral. I wouldn't say that life is neutral although obviously life cannot go on without death. Death is sort of part of those two cycles. But even though for every animal that's born there's an animal that dies, we don't think of life as neutral. No, we say life is good. Overall, the net effect of life is good. More life is better, even though everything born dies, and so you say "Why isn't that neutral?" That's because the same thing happens in technology, when something is invented–let's say you have a hammer. You could use that hammer to kill someone or you could use it to build something, and there is a sense that that's just neutral. They're just tools. You can use them for harm or good. But in fact, the invention of that hammer actually introduces a brand new choice that we've never had before, and that choice, I think, tips the balance. That new choice that did not exist before, tips the balance slightly in favor of the good because there is a new choice for good or harm that had never existed before. That new choice itself is good. Even if we choose the harm in it, we have a choice we did not have before. So, I think, it turns out that you don't need very much more good over time to get progress. That if you use technology to create 1% more than you destroy a year, that 1% compounded over time is what we call progress.

Author
KEVIN KELLY

Kevin Kelly is Senior Maverick at Wired magazine. He co-founded Wired in 1993, and served as its Executive Editor from its inception until 1999. He has just finished a book for Viking/Penguin called "What Technology Wants," published October 18, 2010. He is also editor and publisher of the Cool Tools website, which gets half a million unique visitors per month. From 1984-1990 Kelly was publisher and editor of the Whole Earth Review, a journal of unorthodox technical news. He co-founded the ongoing Hackers' Conference, and was involved with the launch of the WELL, a pioneering online service started in 1985. He authored the best-selling New Rules for the New

Economy and the classic book on decentralized emergent systems, Out of Control.
Website: KK.org