

The Tim Ferriss Show Transcripts

Episode 96: Kevin Kelly

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Tim Ferriss: Hello, boys and girls, this is Tim Ferriss, and welcome to another episode of *The Tim Ferriss Show*, where it is usually my job to deconstruct world-class performers across all different areas and industries, whether they be military, chess, sports, entertainment, or otherwise, business, of course, being the obvious one. This time, it is a conversation between friends, and I am extremely excited to have Kevin Kelly back on the show.

Kevin Kelly – I’ve said this before – might be the real-life, most interesting man in the world. I’m not making up what I’m about to read to you. He is “senior maverick” at *Wired* magazine, which he cofounded in 1993. He also cofounded the All Species Foundation, a nonprofit aimed at cataloguing and identifying every living species on Earth. In his spare time – of course, I’m using that tongue-in-cheek – he writes bestselling books, many of them; cofounded the Rosetta Project, which is building an archive of all documented human languages; and serves on the board of The Long Now Foundation. As part of the last, he’s investigating how to revive and restore endangered or extinct species, including the woolly mammoth. That is not made up, folks.

We touch on a lot of really fun stuff in this episode, and when Kevin arrived at my house to record, I had certain plans. I asked him what he wanted to highlight or focus on, and we just decided to catch up as friends. So, this is very truly the type of conversation that led me, in the first place, many moons ago to ask, “Why don’t I record these and share these conversations?” because I have so much fun catching up with friends like Kevin.

This is about as close to a banter over drinks as you’re going to get in my life, certainly, putting this out publicly. So, I hope you enjoy it. We touch on all sorts of things: stories about Jeff Bezos and his email management approach, favorite books, impactful books, tech literacy, and why there are “no VR experts,” which is very inspiring. There is a video that didn’t make it into this interview, but Kevin mentioned afterward, that I think is the history of Japan in nine minutes that I highly recommend everybody checks out. We talk about the evolution of China, why he spent so much time

in China, artificial intelligence, network effects, virtual reality, GMO – we talk about everything.

If you think I am the only big fan of Kevin, well, of course that's not true. Here is a little bit of praise for his most recent book, called *The Inevitable*. These are real quotes. I'll truncate some of them, so here we go:

“Anyone can claim to be a prophet, a fortune teller, or a futurist, and plenty of people do. What makes Kevin Kelly different is that he's right.” It goes on and on. That's David Pogue, who many of you will know.

Then we have, “Kevin Kelly's been predicting our technological future with uncanny prescience for years. Now he gives us a glimpse of how the next three decades will unfold.” That's Ernest Cline, author of *Ready Player One*.

And then, also referring to the book *The Inevitable*, Marc Andreessen, who I had on the podcast recently, cofounder of Andreessen Horowitz, technological icon, refers to it as “an automatic must-read.”

So, I hope you enjoy this very informal and wide-ranging conversation with none other than Kevin Kelly. If you want to listen to a longer conversation where I dig into his bio and learn all sorts of nuggets that even I didn't know, then you can check out FourHourWorkWeek.com/Kevin. Just go to FourHourWorkWeek.com/Kevin and you can find previous conversations with him. Enjoy.

Kevin, welcome back to the show.

Kevin Kelly: It's always a pleasure, Tim. It's so great to be here. It's a fantastic low-horizontal space.

Tim Ferriss: Thank you. It's great to have you in my house for a change. I remember, still, the very first Quantified Self meet-up at your place in Pacifica with however many people it was.

Kevin Kelly: There were 25 people who showed up, with a call to, “If you think you're quantifying yourself, come,” and Tim was one of the people who arrived.

Tim Ferriss: It was a broad spectrum of folks.

Kevin Kelly: It was. It was really good. We had no idea what to expect, Gary Wolf and I, probably eight or nine years ago. That was the very first meeting of the Quantified Self movement, and it was meeting in my studio in Pacifica.

Tim Ferriss: And where is Quantified Self now? What is the scope of that?

Kevin Kelly: There are meetings in almost 300 cities around the world, and we have an international conference once a year, so it's entered into the vocabulary. People talk about it, whether for or against it. There are, of course, tons and tons of hardware sensors. The last CES before this year was called The Quantified Self CES because there were so many wearables, the Apple Watch being one of many. So, it sort of entered into the mainstream, in a certain sense. It remains to be seen where it goes next. You're probably not wearing your Fitbit today –

Tim Ferriss: I'm not.

Kevin Kelly: So, some people have spells with this, where they find it useful, and the question is, "How deep can these sensors go so that they're kind of something that everybody does, and it's the new normal?" I think we're still a ways from that.

Tim Ferriss: I don't think we're that far away from it being opt-out, though, instead of opt-in. And for most people, actually, you're already quantifying yourself because you have an iPhone with an accelerometer that has location tracking and so on.

The fascination that I have with your life extends in many different directions, but one is that there's the Kevin Kelly, futurist technologist, and then there's the Kevin Kelly – and they're one and the same, of course – who sends me your family letters. I love getting these letters. They read like fiction, quite frankly. It's straight out of like *Rin Tin Tin*. I remember just recently getting a text from you, and it was from a number I didn't recognize. What did it say? "I just finished tracking elephants" –

Kevin Kelly: "Temple procession elephants in Kerala, and I'm on my way to Oman tomorrow," or whatever.

Tim Ferriss: Yeah, "Would you like to come?" and I was like, "I'm sorry, who is this?"

And you spend time with the Amish – we talked about this in the first episode we did together, certainly – but at the same time, we

can get really granular and tactical. But first, before we go to my questions about email and books and *Hamilton* and so on, why do you spend so much time in China? You've written a little bit about this in your family letter updates, but you seem to spend, every year, more and more time in China. And why do they love you so much?

Kevin Kelly:

So, it's a very complicated reason. My connection to China is kind of deep, starting with the fact that my wife is Chinese. My kids are all bilingual and have spent time in China. But more importantly, I wrote a book called *Out of Control* 25 years ago, or maybe more now – 1994, I guess – and it was a little early because it was about how the Internet was going to happen before the Internet really happened.

It was about how these decentralized, sharing things were almost biologically inspired, and they were going to go into our built environment. That's what I was talking about, and I was talking about all the rules that the Internet was going to run by before there was an Internet. It never really took off in the US, but it was translated into Chinese – crowd source translated – about five years ago, and it was just at the right time, when Pony Ma, Jack Ma, and all these guys in China were starting their Internet companies. They read the book in Chinese, and were influenced by it, and talked about it.

There's a little bit of a social herd mentality in China, so when these famous successes were talking about this book –

Tim Ferriss:

I don't think we do that at all in the US.

Kevin Kelly:

That's exactly right. Everybody started to buy it, so I became, for better or worse, kind of the Alvin Toffler of China, and they have this ridiculous idea that I'm predicting the future.

In fact, there were very few predictions in the book. It was just that I was talking about things that later on became common. So, they always introduce me as “the guy who invented the Internet” or “who predicted the Internet,” and of course, the next person who introduces me has to kind of ratchet that up even higher, so it's embarrassing at this point.

But I have a lot of fans in China who are trying really hard to be innovative. They're kind of listening to people from the West – not just me – about how to do that in their culture, so my book has become one of those books that they are reading to understand

where it's going because they are rushing into that future so fast that they really need all the guidance they can get.

Tim Ferriss: For people who don't know Toffler, can you give a little context?

Kevin Kelly: Yes. Alvin Toffler wrote a book called *Future Shock* in the '70s or '80s; I don't remember when it was. He, in some ways, for a long time, was the most famous futurist, and even people who didn't know what he was talking about knew him as a futurist. If you knew about a futurist, it was Alvin Toffler, even though you hadn't read his book. I have the same thing in China, where people might recognize my name and call me a futurist even though they've never read anything by me.

Alvin Toffler's book, *Future Shock*, is still worth reading. He was the one who introduced the term "future shock," which was that people would have a resistance or a reaction to the future in general just because things were changing fast. He also invented, in that same book or the next one, the term "prosumer," which is a person who is both producing and consuming – which we now call "user-generated content" – this idea that most of this economy would be prosumers. That was his idea in like the '70s or '80s, so he was way ahead of it.

Tim Ferriss: That's incredible. How do you see China changing in the next, say, 10 to 20 years?

Kevin Kelly: I believe that China is, within five years, on the cusp of actually having a global brand of something that everybody in the world would want.

Tim Ferriss: Meaning a Nike or a fill-in-the-blank?

Kevin Kelly: Exactly. Whether it's a car or a drone or a camera or some appliance or device or digital thing, it would be world-class in its innovation and its quality, like Sony eventually became for the Japanese. The reason why I think that is because, as you said, I go there a lot. I go there probably every three months, and I don't just go to the big cities, where I do my talks, but I always will take an extra week or two and go into the hinterlands, out to Hunan or Quanchi or some other province, and I spent some time on the Silk Road way in the west where it's Muslim, to get a sense of the other China and to gauge the depth of their dream.

I'm constantly thinking, "What do the Chinese want? They're going so fast. What are they aiming for?" What they're trying to do

is innovate, and they're coming to the West to learn how to innovate, like we taught the Japanese to do quality. The Japanese said, "How do we do quality?" so they went to Taylor, and all these guys gave them a list of, "Do this and do this and do this, and you'll have quality." The Japanese went through their list. They did it, and then they became kind of the world's expert on making quality.

The Chinese are saying, "How do we do innovation?" and all the people from the West, like me, are like, "You need to have science fairs. You have to have innovation hubs. You have to have startups. You have to have all this stuff."

So, they're going down the checklist, "We're going to do that. We're going to do that. We're going to do that," and I think they are doing it, and they are going to succeed in making something that we all want. I don't know what it is, but I feel that they're really doing all the things they want to do, although there are two cultural characters that they haven't yet gotten too.

Those two cultural ones are that they haven't yet embraced failure and that they still don't collectively question authority enough. They're working on those, and they know that they have to do those, and they know that those are difficult to do collectively. Individually, of course, there's no problem. The Chinese who come to America can do all those. But collectively as a culture, those are challenging for them. They're working on them. It'll be some more years, but I think they will do it.

Tim Ferriss:

I know we're getting pretty China-focused here, but as a sidebar, you were talking about visiting these far-flung corners of China. China, for those people listening who haven't been, is a lot more diverse than you might think. In fact, when you hear Chinese the language, like Mandarin Chinese, it's basically Beijing-dialect Chinese. On top of that, if you were to go to China, there are many ways to say Chinese, depending on where you are, and it indicates a lot of how you feel.

So, you could say, "[Speaking Chinese]," like the center-country, middle-kingdom language. Then, you can also say, "[Speaking Chinese]," the language of the Han people, who were the dominant ethnic group. If you say, "[Speaking Chinese]," if you go to Taiwan – now, the mainlanders hate that – it means the mainland talk. I'm translating very liberally here, and that, of course, really irks the Chinese who view Taiwan as sort of a rogue province that

is, nonetheless, still part of them, much like Quebec or something in Canada.

If you look at, say, Singapore, Singapore has tried, with some success, for at least, I would say, the last ten years, to replicate Silicon Valley, and they've faced very similar cultural hurdles. But they have fantastic – at least, my impression is – financial resources, they have unilateral freedom to do whatever they want, and they have a well-educated population. They are very, very, very small. The sandbox is incredibly small. You can walk around Singapore in a day, and then you're like, "What am I going to do here? I need to go to Malaysia to have a new meal."

Why will China differ? Is it just the sheer number of people that they have to choose from or filter from, from which you can find the Michael Jordans, the Jeff Bezos's, the fill-in-the-blank?

Kevin Kelly:

Absolutely. I think this is an arithmetic problem – 1.4 billion people. By the way, there are like 0.3 billion North Americans. It's like there are a billion more of them. I think there definitely is a critical mass, a scale, that the Chinese have, and it's almost kind of translated into a momentum that you need, and then that you have this critical mass of people behind you doing. You were mentioning diversity, which Singapore does not have as much of. They have a lot for being a little city, but not compared to China. You have a huge diversity in China – not just a language, but even ethnically and geographically. And so, I think they have all those necessary requirements, the requisite complexity, that you would need to make something.

But I would say two things. One is that if they attempt to make another Silicon Valley, I think that fails. There are network effects in all of these things, and the network effects are that the best get bigger, and that the bigger you get, the better you get, and that the better you get, the bigger you get. So, you have this sort of compounding acceleration. That means that there are only going to be one or two dominant players.

And, by the way, AI is going to be a network effect phenomenon. Social media is a network effect phenomenon. The kind of startup culture is a network effect phenomenon in a particular category. So, if they try to do a Silicon Valley for software, it will not happen. If they decide to take something – which I think they might – like robotics or aviation or biotech, and really develop and grow it to a sufficient scale, I think they could have an equivalent, and right now, they do have one in manufacturing.

In the Pearl River Delta area, from Guangzhou to Shenzhen, and Hong Kong, they do the world's best manufacturing in China. It's not because it's the cheapest. It's because it's the best. And they have this whole ecosystem with thousands and thousands of suppliers and dynamic, real-time inventory control, and this whole thing. So, they do have the Silicon Valley for manufacturing in that area, and they will continue to grow that. People are going there not because they're the cheapest – in some cases, they aren't – but because they have the absolute best in manufacturing.

Tim Ferriss: For those people listening, Kevin and I decided to wing it. We had a conversation prior to recording, and this is just us talking about stuff that we're interested in.

So, I've been, over the last few weeks, discussing with folks, visiting Silicon Valley and the origins of Silicon Valley, or trying my best to explain why Silicon Valley may have happened here and not elsewhere.

How much of Silicon Valley do you think can be attributed to a handful of companies that just happened to land here, like Fairchild or some of these semiconductor companies; the inability to enforce non-compete contracts in California, which I think allowed these people to then split off and form many other companies that might have stepped on their former bosses' territory; or other? When somebody asks you, "Why did Silicon Valley happen here?" what do you say?

Kevin Kelly: There are reasons why, and there was actually a really good book on this by Anneliese Axline, I believe her name was, and she studied Route 128 around Boston and Silicon Valley, and compared the two because Route 128 actually had a little head start in this kind of tech world, and why they didn't become the Silicon Valley.

Tim Ferriss: Why did Sand Hill Road kill them?

Kevin Kelly: There are a number of different reasons, but one of them was because – I think you mentioned a couple, but there are others – Silicon Valley was so far from the West Coast government, the DC government –

Tim Ferriss: The East Coast government.

Kevin Kelly: Excuse me, the East Coast government, DC – that they had to find a whole bunch of different sources for funding. They invented the funding model. 128 around Boston was still locked into a lot of the government defense contracts. So, that was kind of a difficulty but a liberation for Silicon Valley, where it was really divorced from the government handouts, government subsidies, or government funding – not completely, but enough to actually really develop this alternative way of financing things.

Tim Ferriss: Venture capital.

Kevin Kelly: Right, venture capital. And I think, psychologically, there was this other division, this other kind of whole California story of “no adult supervision,” not asking for permission, which started in ‘49ers and before. I think that also continued to influence the culture.

So, there was a cultural innovation, and many people say that the greatest invention from Silicon Valley was not the transistor or software; it was this model, this innovation model, that that is the kind of meta –

Tim Ferriss: The “innovation model” meaning the set of beliefs and maxims and so on that those people carried in their heads?

Kevin Kelly: Exactly, right. It’s the venture-funding model, the startup model, this method, this culture that would reward. The joke was that you change a job and you walk across the street. And also, it was the fact that you were encouraged to change your job. Far from lifelong employment, it was this idea that you’ve been here a couple of years, so it’s time to move on. And so, there are a whole bunch of things that are ingredients to that, and this book studied this in kind of a more economically rigorous way of, “Why did one surpass the other?”

Tim Ferriss: There are a number of fascinating documentaries on this, as well, and maybe it’s all sort of hindsight logical, but in reality, 90 percent of it was just a random collision of people and factors. I don’t know.

Kevin Kelly: I would also recommend John Markoff’s book with this really trippy title called *What the Dormouse Said*, which is about the hippie origins of the personal computer industry. So, there’s a whole other strand that is very influential, which was the fact that the hippie generation embraced computers unlike the other technologies that they rejected. They embraced them from Doug

Engelbart to Steve Jobs to a lot of the AI guys. A lot of the people in the early computer industry had kind of a little of the hippie background, and they saw these things as augmentations, as basically kind of a New Age way to augment the human.

So, people had tried the communes. They didn't work, with their long hair, but they learned a lot of skills, including small-business skills, making their candles, their sandals, and their macramé, selling honey, or doing whatever it was. So, unlike people who went to college and never dropped out, who went to work for the big organizations like the IBMs, they were at craft fairs getting business skills. Then, when they came along, they transferred those directly into this idea of small businesses, which were not cool. If you told somebody in the '50s that you were at a startup, that was code for, "I'm unemployed. I was fired."

Tim Ferriss: It's like "consultant," right? "Oh, you mean unemployed." That was the analog.

Have you ever been to – I know I'm jumping around here – to Christiania in Copenhagen?

Kevin Kelly: Yes, in Copenhagen.

Tim Ferriss: So, there's this area – for people who haven't been – called Christiania. I'm pretty sure I'm getting it roughly right. It's effectively like a hippie/anarchist commune around Copenhagen. There are gates that you walk through, and it says, "Here ends the European Union," when you walk through. And as you described, there are people walking their kids around in wheelbarrows, making honey, making candles. They have breweries. It's such a funky experience.

Kevin Kelly: It's a little autonomous region. It started off as kind of a squatter city that is not semi-legal, in some capacity, and they do have their own little government at this point. It's quite extensive. It's not quite as big as Singapore, but –

Tim Ferriss: It's not that far off.

Kevin Kelly: Right. It's a worthy experiment to go visit because there are a lot of alternative governments and structures, and cultures are really important.

Let me just say one thing about travel before we go into other things. I travel a lot, and not just to China, but to other places, as

much as I can because I find that it really keeps my mind flexible. In fact, I find that it's the most exercise that I can do in a short amount of time, more than anything else. Sure, I can learn a new language and do these other things, but I find you can do all those while you're traveling, too. Travel really forces me to be flexible, to confront others, and to think about things differently.

Even if I have a different idea there, it's just the habit of trying to think and come at things differently that I find really, really, useful, in addition to the fact that you actually, literally, are looking at your own culture from a different lens, and even just the general habit of trying to let go of what you think you know.

I go to China, above all else, because every time I go, I have decided that I know less than the last time. There is so much happening there, it's happening so fast, and it's so big that the Chinese have no idea what's happening. I think I know something, and then I go, and I realize that I don't know what's happening here either; I know less than the last time I visited.

Tim Ferriss: Or it's a different country than the last time you were there.

Kevin Kelly: Exactly, right. So, I think travel is so important, particularly to young people, that I really believe it should be subsidized at the federal level.

Tim Ferriss: I think gap years should be mandatory.

Kevin Kelly: I think a two-year national service should be a requirement, and you can fulfill it any way you want, including going overseas and working at the Peace Corps, a visa, or whatever it is. Take two years. "If you want to go do military, that's fine. If you want to go to inner city, that's fine. If you want to go overseas, that's fine. We'll pay you for two years." Nothing would transform America as much as having an overseas experience for the majority of people who, by the way, don't have passports at this moment.

Tim Ferriss: I agree. I could not agree more. And we agreed on a few other things earlier. When we were talking about podcast questions and I was making some funky mushroom coffee, not of the psychedelic sort, that I'll describe some other time, you suggested that I ask people about their email systems. How do they handle inbound email?

Kevin Kelly: Right. For ordinary people, they get a lot of email, but if you have any level of success, notoriety, or prominence, dealing with

incoming email in a sane way that actually works is a real mystery to me. So, people like you or people who get a lot of demands on them, how do you actually deal with email? Do you have more than one account? If you have more than one account, how do you handle it? Do you have your assistant involved?

Tim Ferriss: Etc., etc. There are many different facets to it. And you mentioned that you had a conversation with Jeff Bezos, and I said we had to save that for the podcast. So, now I have to ask, what was this conversation?

Kevin Kelly: I had the opportunity to ask Jeff, at some point, about his email because I wanted a sense of, “Who do I send it to? How do you do your email?” He said – and I think this is probably a ten-year-old answer, so I can’t verify that this is still happening – “I finally figured out what to do. Here’s what it is. Anything you send to me” – and his email’s actually fairly well circulated – “my assistants will read, and they are in charge of doing something with it” –

Tim Ferriss: Right, vetting.

Kevin Kelly: “To give the appropriate response, but I also read it all. I don’t really normally answer it, unless there’s something. Then, if there is something that I want to respond to, I’ll respond. So, the worst-case scenario is that you’ll get two replies – from my assistant, if it needs to be replied to, and me.”

So, in other words, everything goes through in parallel circuit. One is to his assistants, and they deal with what has to be, and most of it’s probably going to be, ignored; for those that need to have something done, they nudge him or whatever; and he’s also looking at it, and he can reply personally to it. He said the worst is that you might get two.

So, he has one email, and I have gotten responses to that email, and sometimes it just kind of goes and, obviously, he doesn’t need to respond to it.

Tim Ferriss: To the ether.

This is something that I’ve had to get increasingly better at. The tools and tactics as I laid them out, for instance, in *The 4-Hour Workweek*, still work very well.

However, I've had to develop more nuanced layers on top of what I did because now it's thousands of email coming and hitting me, my assistants, and everyone. Decisions have to be made for how to vet and use tools like Boomerang to schedule things to be sent in the future, or automatic follow-ups, you name it; moving a lot of internal communication to Slack so that it's separate from the inbox; etc. Do you still have an assistant and a separate researcher?

Kevin Kelly: I do. I have an assistant and a fulltime researcher, but they don't do my mail. I do all my own mail.

Tim Ferriss: What is your researcher currently helping you with, if you can talk about it?

Kevin Kelly: I would love to talk about it. In fact, we just had a review today. I've been working on a project –

Tim Ferriss: A review meaning that you reviewed –

Kevin Kelly: We have an annual review. I have an annual review with the two people who work for me. Once a year, we sit down and do an employee review. We talk about the past year, and we evaluate what's coming up.

Her name is Camille, and what Camille's working on is gathering every long-term forecast that we can find anywhere in any of the industries or published anywhere. We're bringing them together, and we're going to try to integrate all of the long-term forecasts into an integrated forecast of the future – “long term” meaning ten years or more.

Tim Ferriss: So, forecasts could be anything from, “This is how we see gasoline prices moving in the next 20 years,” to, “This is how we anticipate the number of seats filled in air travel to move in the next 20 years.”

Kevin Kelly: Right. And we're going even broader, like the future of sports, the number of attendees at sports game, transportation... We're going through the whole list of things. She's been working on it for six months, and we probably have another six months.

This is what I call the “official future.” Having been trained in GBN, which was a consultancy that did strategy for global companies, the mantra was that all predictions are wrong and, particularly, official futures. So, there's official extrapolation. You take what's been happening for the past five years, and you

extrapolate. They are invariably not correct because things jig and jag, and new things are invented that kind of disrupt the pattern.

My premise is that, while they are wrong, they're still useful, and they would be particularly useful if they were integrated together. So, you would say, "The future of transportation looks like this, and the future of electric cars looks like this, and these both can't be right. They have to kind of inform each other in some ways."

So, that's the next step of kind of integrating and having these official futures inform each other, to see if I can make a scenario that's more useful out of the sum of the parts.

So, she has been working on that for six months, and she also did the research when I was doing the big cover story for *Wired* on VR. So, for five months, I was trying out every single VR headset/input content that I could, and I wrote this article. The way *Wired* works, like other magazines, is they have this fact-checking, which is in some ways kind of a legal, cover-your-ass thing, which means that every single statement that I make has to be verified and proven, like a scholarly article, like a footnote, which is totally insane, but that's what you have to do.

So, you say something that seems obvious to you, some statement like, "People get sick in it," or, "They have motion-sickness." Can you prove that? Where does that come from? How do you know about that?

So, she did a lot of that hard legwork and finding the documentation for these kinds of statements that aren't footnoted in the article, but actually are footnoted in what I turn over to them. So, I have a completely scholarly footnoted article. People don't realize that, but behind the scenes with *New Yorker* and *Wired* and places like that, there's a fulltime staff that will fact-check every single fact.

Tim Ferriss: Oh, yeah, it's a big, dedicated staff.

Kevin Kelly: By the way, books do not do that, and newspapers do not do that.

Tim Ferriss: Yeah, we could spend a lot of time talking about all of that.

Kevin Kelly: So, going back to my assistant, I have a researcher who does all that kind of research and anything else I need research on. That's the main thing.

This was my one dream, to have somebody – and this was even before Google – to ask. I do a lot of travel, and so, they sometimes do research on simple things like, “Is it a sane idea to rent a car in Oman, or should I get a driver?” So, you kind of troll the Trip Advisor boards or Lonely Planet –

Tim Ferriss: The State Department –

Kevin Kelly: Yeah, so it’s that kind of stuff.

Tim Ferriss: Aside from those types of logistics, how do you choose projects for your researcher to help you with? And you could delve into anything you like, so how do you choose?

Kevin Kelly: Projects in general? What am I going to do next?

Tim Ferriss: Sure. Yeah, how do you choose what you’re going to do next?

Kevin Kelly: This has taken me a long time to get there. You’ve seen these Venn diagrams of things that you like to do and things that other people need, but for me, there’s actually a third important circle.

There are things that I want to do – so that has to be a key thing – that I’m good at doing – that’s the second thing because there are lots of things I would have fun doing but I’m no good at – and then there are things that would maybe be useful to other people. But this other circle that’s become more important to me is, “Can anybody else do it?” If somebody else can do it, I am not going to do it.

I spent a lot of time trying to give away ideas and trying to talk about what I’m doing in the hope that someone else comes along and says, “Oh, I’m doing that,” and then it’s like, “Oh, phew! What a relief. Now I’m not going to do that.”

I talk about this future stuff. If I can find someone else out there, and they write to me and say, “I’m doing that,” it’s like, “Oh, my gosh, thank you! Now I don’t have to do that.”

And so, what I’m trying to look for is really good things that I would enjoy, that other people value, that nobody else is going to do, and that I can’t convince anyone else to do. They think it’s a terrible idea, or they think it’s a lousy idea, but for some reason, I think it’s a good idea, and I can’t get anyone else to do it. No one

will steal it from me. I'm trying to give it away, and no one's going to take it. It's like, "All right, I have to do that now."

Tim Ferriss: That's how I feel about books. I get asked, "Why don't you write a book on this? Why don't you write a book on that?" and I'm like, "There are already plenty of good books on both of those subjects." It has to be something that bothers me for so long, it seems like such a crackpot idea to everybody else, I can't buy it anywhere to scratch the itch, and I'm like, "Okay, just to fix that neurosis, I have to address it."

So, titles are important, and you mentioned the title of a book just a few minutes ago, before we started recording, which caught my attention because we were looking at the slow creep of books and piles on my table, which is ironically right next to this Marie Kondo book on the Japanese magic of cleaning up. I can never remember the name of the book.

Kevin Kelly: Let's be more accurate. The book about cleaning up is on a stack of other stuff.

Tim Ferriss: Exactly. I took a photograph of it because it's a lot better than it was. It used to be kind of like the trash compactor in *Star Wars*, and this book on Japanese decluttering would just kind of surf this wave of flotsam-jetsam around my house. It's a lot better now.

But you mentioned that another book called *All Too Much* –

Kevin Kelly: *It's All Too Much*, and it actually preceded her book, at least in English. I thought it was so valuable that in this really huge book I did called *Cool Tools*, I list it as the very first tool, which is how to deal with all this stuff and how not to have a bunch of stuff.

I actually gave it a whole page because I thought the message was so profound. It's not about tidying up and cleaning. He talks about the fact that if you have something that is valuable, you need to show it. If you have collections and they're not visible, then they're not working for you. So, he's not against collecting things, but if you collect them, they have to be prominent. They have to bring you joy. They have to be doing something in your life. What you want with decluttering is basically to remove the junk so that you have room for your treasure.

All these kinds of things, where it's not about the stuff, it's about your mental state, your openness to new ideas, and the clutter is, in some ways, prohibiting your self-fulfillment, the best you, because

you're buried under it. So, there is this sort of – I wouldn't call it pop psychology, but it is a little bit about trying to get at that core of what you're about, what your house is about, and what your life is about, and making room for these things.

The kinds of techniques that he uses are very similar to what the Japanese gal – I can't remember her name –

Tim Ferriss: Kondo.

Kevin Kelly: Kondo – which is: You pick up something and ask, “Does that object give you joy?” Actually, she does it differently. She says, “Take everything in your house” – and she goes by categories – “Put all your clothes in the center. Make a big pile. By default, you're going to get rid of all of them, but as you're going through, if you pick up something that gives you joy, that's what you keep, and everything else is just gone.” And the same is true for all your other possessions. Category by category, you decide that they're all, by default, going to be gone, and you only retrieve those things that give you joy.

That's a little bit of what he's talking about in that same kind of profound way.

Tim Ferriss: I did try this. I gave it a good college try, and I did find certain aspects of it very helpful, but then there was the joy part of it. I picked up, I remember, these printouts that were like legal documents or tax returns, and I'm like, “Not joyful. This is not giving me joy, but it would be very neglectful and irresponsible of me to throw these out. Now what, Marie Kondo?”

The topic of simplicity is one that I try to consistently return to because our lives tend to entropy, right? What books or resources have you found helpful for simplifying your life? And if that's not the right question, you can tackle it a different way.

Kevin Kelly: I think it's all too much. This kind of decluttering and her book are actually helpful in simplifying things. I'm maybe not as big of a fan of simplicity as you are. I think our lives are inherently more complex than our parents and our grandparents. And our children and their grandchildren and future generations will be more complicated.

I think that is generally the drift of this thing that we call life, and evolution, and technology, and they're going to become more and more complicated. I think, right now, some people are very upset

over our distracted manner or the way we kind of skip through or surf through the nets and Internet and social media. I actually think that's a very sane response to the environment, where we kind of have to scan because things are much more complicated, and we'll do more scanning in the future.

So, I think maybe there are appropriate kinds of complexity. Maybe we avoid complications, and complexity is okay. The thing about life is that it surfs a very fine line between rigid order, which is death, and complete chaos, and there's this edge – "edge of chaos," they call it – this edge where there's this sort of particular kind of falling forward, or particular kind of chaotic order or orderly chaos, or something.

So, it's not rigid simplicity, and it's not this overly chaotic complication. There's a variety of complexity that is not just healthy, but it is the source and the genius of, I think, health, wealth, and everything else that we want.

Tim Ferriss: I think that I might be able to ask a better question, which is: In the face of the notifications, and social media pings, and so on and so forth, a lot of people feel anxious, and they feel conflicted and overcommitted. Maybe you just mask it really well, but I've never had that feeling from you. I've never gotten the impression that you feel those things. Why not? Are there particular rules or ways that you –?

Kevin Kelly: There is one thing, and maybe this is kind of a Zen thing. The Zen mantra is, "Sit sit, walk walk, don't wobble."

Tim Ferriss: I haven't heard that before.

Kevin Kelly: It's this idea that when I'm with a person, that's total priority. Multitasking? No, no, no, no. So, I have a priority. People-to-people or person-to-person trumps anything else, and if there's something else going on, I have given my dedication to this. If I go to a play or a movie, I am at the movie. I am not anywhere else. It's 100 percent. I am going to listen. If I go to a conference, it's like I am going to go to the conference.

Tim Ferriss: That's true. I've never seen you on a device while with or near other people, now that I think about it.

Kevin Kelly: Even at *Wired*, before, I had a rule. It was like if I'm person-to-person and the phone rings – no, never. If I'm on the phone and the notification rings – no, I'm on the phone. So, I think it's this sense

of – and you can have a priority if you want, whatever it is – I’m going to be present, whatever that is, at that time, and everything else is sort of, “We’ll deal with it later.” It’s, “Sit sit, walk, walk, don’t wobble.”

Tim Ferriss: Right. What books have you found – and I always come back to books, but it doesn’t have to be books; it could be sources, something that people listening could look at themselves or listen to – have given you rules like that, or maxims or sayings, that have proved very useful?

Kevin Kelly: I come from religious tradition, and I actually think some of the religious texts are very good for that. I think it’s very hard to read the Bible all the way through. By the way, I recommend that you do that at least once in your life. No matter who you are, sit down – well, it will take a long time – and read through the Bible. Read a modern version. It will take you some time, but it is probably the most amazing thing you haven’t read yet. It’s highly disturbing, highly influential, and whatever your opinion about it is, you’re going to be wrong. Read it through. It’s an amazing book.

I would say the same thing about the Quran. Try to read the Sufi stuff. There’s nothing that I enjoy more at night than reading Rumi. Something about it is just – He’s a Sufi mystic from Afghanistan who is a transcendent thought leader maybe like Seneca or something. He has tremendous wisdom.

So, I think the wisdom of the ancients, in general, has a lot to offer us. I think the reading of things like the Zen parables, like the sound of one hand clapping, *Zen Mind, Beginner’s Mind*, and that kind of wisdom, it’s not like you have to be slavish or obedient to them. Take what you find useful and move on. But I’ve found a lot of use in those texts.

Tim Ferriss: So, we have, in a sense, these timeless philosophies and belief structures that can help us make better decisions and so on. Then, we have subject matter expertise of different types which can become more or less relevant over time. We were chatting, before we started recording, about a question that I get asked all the time, which is, “What industries should I be paying attention to in the next three to five years? What skills should I learn?” Most of these are business-focused. “What skills should I learn to be able to take advantage of new, non-obvious industries in the next 10 to 15 years?”

You mentioned – and I might be getting the wording off – sort of tech literacy or –

Kevin Kelly: Technoliteracy.

Tim Ferriss: Technoliteracy, different types of literacy. Can you elaborate on that?

Kevin Kelly: Let me put it in a little bit of context. I'll talk a bit more, but let me just preface it and say that I do talk a bit about this in my new book, called *The Inevitable*, which is –

Tim Ferriss: I have one of the few copies right here in front of me.

Kevin Kelly: Tim has one of the first copies right off the press. It's talking about the next 20 to 30 years, mostly about digital technology and the trends that I consider nonnegotiable – inevitable, in a sense. There's not much we can do about it. There's a lot we can do about the specifics, but not about the bigger trends. They're coming whether we want to –

Tim Ferriss: *The Inevitable* subtitle is *Understanding the 12 Technological Forces That Will Shape Our Future*.

Kevin Kelly: Right. And one of the first chapters talks about this question of skills. I think, instead the specifics like, "What language should I be learning in school?" or, "What business skills should I have?" what are more useful and what I counsel even my own kids about are these meta-level skills – the skill of learning how to learn, the skill of learning how technology in general operates – which is what I would call the technoliteracy skills.

An example of a technoliteracy skill is that – besides the initial purchase cost of a technology, whatever technology you buy – you now have a maintenance cost. That maintenance cost includes making sure that it's upgraded, integrated, or just maintained in some capacity. So, there are several levels of the cost. It's not just how much it costs to buy, but how much it costs to maintain in your life. There's a price to dealing with it when it breaks down, or upgrading. It's sort of like owning a boat, a little bit. It's not the initial cost of the boat, but it's the maintenance that really is the costly part, and it's the same thing with anything that we buy.

So, if you get something into your house, there's now a relationship with that thing. It's like having a pet or an animal; you

have to deal with it and its interaction with other things. That's just kind of an elementary thing.

There is a sense in which there are also negative costs, too, in terms of whatever it is that we have, there is going to be some downside. Journalists are usually pretty good about identifying that you should pay attention to what people say about the negative aspects of it because they are real. It's not that it should discourage you from using the technology – and I'm going to argue that it shouldn't – but we should be aware of them and willing, in a certain sense, to pay the price.

Tim Ferriss: What would be a clear example to you of a technology with a downside that perhaps is underappreciated, or downsides that are underappreciated?

Kevin Kelly: Automobiles kill 1 million humans on Earth every year. Now, imagine if we were going to introduce automobiles and say, "We have cars. They will kill 1 million of us. Do you want to drive it?"

Tim Ferriss: That's not the best pitch I've heard.

Kevin Kelly: I know, but that's what I'm saying. I'm saying that there are all these hidden – But that's real, and this is one of the reasons why I think driverless cars are going – So, here's the thing. When the first driverless car kills a person, people will go completely bananas, but we're killing 1 million of them ourselves, and that's not registered, for some reason. It's like, "That doesn't count?"

Tim Ferriss: Yeah, they've lost the reference point.

Kevin Kelly: Right, exactly. So, driverless cars will kill some people, but they're not going to kill as many as we kill.

And there are going to be, by the way, ethical issues with driverless cars because we give ourselves a pass when we have an accident. It's like, "Oh, I didn't have time to react. I wasn't thinking." But the driverless car has to be programmed, so you have to give it a preference. If there's an accident, do you give the passenger safety preference over the pedestrian?

Tim Ferriss: Right, or do you give the three elementary-school kids –

Kevin Kelly: It's the trolley problem.

Tim Ferriss: Exactly, it's the trolley problem – over the seven people who were 70 years old.

Kevin Kelly: Right. And so, when you go to buy a car, and Volvo says, “Hey! We give passengers preference,” is that ethical?

Tim Ferriss: Is the programming one of the selling points? “You are 12 percent less likely to be sacrificed in compromising environments.”

Kevin Kelly: And so, technoliteracy is saying we need to be cognizant of this, that there are costs and that there are ethical dimensions to this. And there are other technoliteracy skills like the fact that you don't really want to learn a programming language, but that you want to learn how to learn a language because you're going to have to relearn it later on. You want to understand that when you buy something, it's kind of immediately obsolete, always, by definition.

So, one of the things I recommend is that you want to buy things five minutes before you need it and not ever before. There's no sense in hoarding the stuff because it's just going to change.

Tim Ferriss: Just in time instead of just in case.

Kevin Kelly: Exactly. So, I think those kinds of skills are going to be much more useful. I might have said this before, but when I was at *Wired* and we were doing hiring, first of all, I never looked at anybody's educational background. I looked at their experience. The model that I had in my head was you hire for attitude and train for skills.

I wasn't really hiring people for a skill set, per se. It was more of their attitude, their orientation, their technoliteracy, their ability to learn and adapt. That was far more valuable than the particular skills they had. Now, at some level, skills play into it, and there is a certain skill requirement, but I think maybe as important are these other levels.

Tim Ferriss: It makes me think of what I think is a bit from Neil Gaiman's commencement speech, “Make Good Art.” He says that at some point he realized that there are three important components if you want to keep a job. They are: get along with people, have people like you; deliver things on time, and be good at your job. He said the good news is that you don't actually need all three. He said you just need two out of the three. If you have two out of the three, they'll keep you around. Do things on time and have people like

you, or be really, really good. He's like, "You only need two of the three."

Kevin Kelly: "Do things on time" is really great, but in terms of other people who are self-starters – like if you don't have a job and you're trying to do something – the equivalent of that is to just do lots of it over and over and over again. I can't emphasize how important that "doing it a lot" is because it's the only way to find out what you're really good at or what no one else can do. It's a lifelong project.

Tim Ferriss: You have to throw a lot against the wall and see what sticks.

Kevin Kelly: You have to do a lot a lot. The more failures you have, the more successes. It's a really very clear ratio that's linked, and you just have to do a lot. That's the only way you can find out what you're good at. How many college kids, young people coming out, they say, "I don't have that passion. I don't know what I'm good at"? The only way I know to find out your passion is to actually work to it by trying lots of stuff and becoming an expert at something.

Tim Ferriss: Right. This might sound clichéd, but instead of discovering yourself, you're creating yourself. And so, these kids – "kids," I sound like such an old man – these young people graduate from college, and then they want to sit down and journal for ten minutes, or take multiple-choice tests to figure out their Myers-Briggs and have their assignment for passion, and I'm like, "That's not how this works. You're not a block of ice that's being chipped away to reveal the sculpture underneath. You're actually just a small piece of clay, and all the other bits and pieces need to be added. There's a kernel of it that is you, but you need to construct that, and the way you do that is by doing these experiments and trying X, Y, and Z and everything else in between."

I still feel like I'm doing that.

Kevin Kelly: I'm still doing that. I'm almost 65, and I'm still doing that. The people I respect the most in my circle are still doing that. They're still asking themselves, at 70 years old, "What am I going to do when I grow up? Who am I? What am I here for? Should I be doing this?" That's actually why I respect them so much, because they're still constructing their lives rather than, say, discovering it or finding it. They're constructing it, and I think that's a really wonderful metaphor.

Tim Ferriss: You said, a while back when we were just putzing around in my living room looking at the living wall and whatnot, that there are no VR experts.

Kevin Kelly: Right, right. So, I wrote this big cover story on *Wired* about VR, and a couple years ago, I wrote about AI. By the way, these are the kinds of things that are in my book *The Inevitable*, where I'm looking at these things which are coming. So, AI is coming in a big way. VR is coming. The particulars of how it arrives, who owns it, how it's structured, those are not inevitable, those aren't predictable, and they make a lot of difference to us. So, we have a lot of choice in this thing.

But one of the things that I want to emphasize is that, right now, basically, there are no VR experts. It's completely open. We – collectively, humans – have no idea how VR is going to work, what content will really work best in VR, what the necessary amount of equipment will be, or what that consumer breakthrough version will be. Even though there is VR today, the VR today is good enough to improve. So, it hasn't been good enough to improve, but now, today, with the Oculus and the Vive and this other stuff, it's now good enough to improve, for reasons like we talked about, and it will improve very fast.

But there are no experts. So, that means that a person out there, listening to this, could easily become a VR expert. There are really no AI experts. There are a lot of people working on AI, but compared to what we'll know in 20 years from now, we don't know anything. And so, it's actually not that difficult to become an AI expert.

Tim Ferriss: So, let's say someone listening said, "You know what? I've read about VR. This is really exciting. I'm tired of my comparative literature major. I'd like to switch gears and really immerse myself." What would you suggest they do? If they seemed earnest, intelligent, and committed, and they were like, "I want to become a VR expert" – or AI, take your pick?

Kevin Kelly: There is a guy, Kent Bye, who runs the *Voices of VR* podcast. Two years ago, he quit his job and since has done 400 interviews of almost every person working in VR. That's his job now. He just does interviews of the voices of people working in VR. He's kind of doing the journalistic side.

I would say – very, very easy – you purchase some gear, and you start making VR. You actually do it. You'll get a pair of Google

Cardboard, which you can get for free, and use your phone, and start making VR. You'll learn more about it than reading about it, than working, than whatever it is. Try to make a VR experience. Make something for five minutes. The issues are incredible. There are lighting issues. There are continuity issues. We don't even have a vocabulary for it. Like in cinema, we have a whole syntax of what a "cut" is, how you do a "jump" or "dissolve" –

Tim Ferriss: A "panning shot" of X, Y, and Z.

Kevin Kelly: None of that really works in VR. It doesn't mean the same thing, so somebody has to invent all those. The interface, the mouse – there's no mouse for VR. There are people who have invented it, but there's nothing that has worked like the Windows mouse that Engelbart made. There is so much that has to be invented. Somebody who just decides that they're going to work at this every day, or every day on weekends, or whatever it is, can make a huge advance. I think you'll need to do it because you love it. This is not economics. We're talking about investing into mastery.

Tim Ferriss: I was having a chat with Marc Andreessen recently, and he said – what did he say? I just had a complete mental blank. I need more tea. He said a lot of very interesting things, and you will hear about them another time because I just had a complete premature Alzheimer's moment. So, that's going to have to be a footnote for later.

What are you most excited about right now?

Kevin Kelly: I'm going to take that in the professional sense –

Tim Ferriss: Take it in any sense. I value your opinion.

Kevin Kelly: In the personal sense, I'm still very excited about Asia. Asia is a combination, for me, of the future – I go to China to hear what the future will be – and also because I have a love for the Asian traditions that are disappearing very, very fast, and I'm trying to record them. So, I go to Asia to photograph these disappearing traditions, ceremonies, and whatnot.

Tim was just joking that I just came back from Kerala, India, where I was photographing these massive elephant processions that the temples have with 40 elephants parading through, and all kinds of ceremonies. I don't know how long they can continue that. It's a very expensive, elaborate spectacle, and not just in one place but throughout the rural areas. It's like other areas – as they become

modern, some of these traditions become harder to hold onto. I'm not nostalgic about wanting to keep them or protect them; I just want to record them because I think they will go away.

So, that excites me. I'm working on another book, and it's personally something I love to do for joy. That's the only reason – just because I love to record and document these things, and see them.

But the other thing I'm excited about in the world of the future is AI. I can't over-enthuse on the disruptive nature that I think AI will be, in the broadest sense. Many people use analogies, and I have several analogies, but the one that maybe would make sense to most people is: The Industrial Revolution was this huge, huge thing from the world of agriculture, where we used our own physical muscles and the muscles of animals to get things done, and then we had this thing where we automated that with artificial power – electric power and steam power and, later, gasoline power.

This was artificial animal power, artificial human power, that we used to make our lives so much easier and so much different. This house has been built using this automated power. Imagine if you had to make it by hand. It's just insane. We couldn't do it.

So, all these motors and the harnessing of that power propelled this Industrial Revolution into the modern world that we have. 150 years ago, farmers would take an item, like a hand pump, and say, "We'll make it electric." So, they took things and they electrified them. What we're doing now – we're at the very beginning of it – is we're going to take all of the things that we electrified, and we're now going to cognify them. We're going to add intelligence to them – everything, and not just things that are electric but even inert things like a chair, like the door.

People laughed and said, "You're going to put a computer in a door?" – 20 or 30 years ago – "Yes." Go to a hotel today. There's a computer in your door. There's a little card reader.

So, we're going to just keep adding this, and it's going to get smarter and smarter in multiple different ways. So, that intelligence, what I call "artificial smartness," is not like human intelligence; it's like artificial power. It's like synthetic learning. It's just a very specific, narrow, brute-force kind of intelligence. When you drive a car, it's what? 240 horsepower. You have 240 horses at your disposal. And we're going to do the same thing with

AI, like you're going to have 250 minds right here to do whatever it is that you want to think about and solve. You just hire this. And so, it'll be like electricity in the sense that you're not going to make the AI. You're going to buy. It would be in the cloud.

Tim Ferriss: It'll be like Amazon Web Services.

Kevin Kelly: Exactly. In fact, Google is now selling their AI. You can purchase AI from Google today. And that's what we'll do, yes. It's \$0.60 per 1,000 instances.

Tim Ferriss: Really?

Kevin Kelly: Yes. And Google AI can do amazing things like it can look at a picture and tell you what's going on in a picture, and you can actually ask it questions. You can say, "What's that person wearing? What color is that hat? What are they doing?" and it will tell you back – \$0.60 per 1,000.

Tim Ferriss: What would your response be to those who have a fear of the rise of the machines – Skynet and the summoning of demons we can't control, etc.? How would you respond to that or comment on it?

Kevin Kelly: I would say, first of all, it's possible but very unlikely.

Tim Ferriss: Why do you say that?

Kevin Kelly: There are a lot of reasons. One is that the general trend is that automation, including this AI, will create more jobs than it destroys, and it will take a lot of jobs away. I think in 20 years, at least 50 percent of the people driving trucks will no longer drive trucks. And by the way, truck driving is the most common occupation in the US.

Tim Ferriss: I did not know that.

Kevin Kelly: Yes, so 50 percent of those will not have jobs, especially the long-haul trucks and stuff like that.

So, there will be jobs – I like to think that there are tasks – that are going to be taken away – automation tasks, including white-collar tasks like mortgage, people working in bank loans, or anything like that. If you have a job that's defined by productivity or efficiency, that's a job that's going to go to the AI.

So, productivity is for robots. Productivity is for robots. What humans are going to be really good at are asking questions, being creative, and experiences. Almost everything in our world, right now, is becoming cheaper and cheaper in cost. The few things that are increasing in cost are all experience-based: tickets to a concert, tickets to *Hamilton*, tickets to travel, personal coaching, nursing care, weddings, etc.

Those are the things that are going up in price because they're not commodifiable. They're not manufacturable. They're experience-based. They're not efficient. Science is terribly inefficient. You're not learning anything unless you're making mistakes. That's inefficient, by definition. Innovation is inherently inefficient. So, we will move to those things. They don't all have to be highbrow – nursing care, being a companion for someone, giving them attention, giving them an experience, etc. There's a big room there.

But I think we're going to move away from things that are going to be measured in terms of efficiency because anything that's concerned with efficiency – whether it's white collar, knowledge work, or physical work – goes to the robots.

Tim Ferriss: What has been the most impressive VR experience, or profound, that you've had?

Kevin Kelly: This is a good question because I saw them all, and I saw the secret of Magic Leap, which had a really good visual representation, but it turns out –

Tim Ferriss: Magic Leap being augmented reality?

Kevin Kelly: They call it a mixed reality because it's the kind where you have a clear glass that you're wearing, like Google Glass, but you have a full vision, and there is a synthetic or artificial object, or a being, or something in your vision. So, I could be looking around this room, and I would have these glasses on, and I could see either a virtual screen, or a virtual teacup, or a virtual book, or a virtual animal, and it would be really present.

Tim Ferriss: Yeah, for people who want to just get a sample of this, I'm sure you could just Google it, but there's also a really, I thought, good piece written by Chris Dixon on, "What's Coming Next in Computing?" I think that was the title, the headline. There's a little animated GIF of Magic Leap –

Kevin Kelly: Magic Leap, right.

Tim Ferriss: It's a demonstration of this little – it looks like a Japanimation kind of robot hanging out under someone's desk.

Kevin Kelly: Right, and it's very vivid. I saw the robot, and where it doesn't work, where they have to improve, is that that object is not lit in the same way as the rest of the room. So, there's a little mismatch to do that. To light that thing and render it in real time with the light of the room, we're way off on that.

So, what you have is an artificial thing that's really there. It's like having a cartoon thing. You know it's not really real, but it really is there.

Tim Ferriss: It's like *Who Framed Roger Rabbit*?

Kevin Kelly: Yeah. But that's very useful if you're designing a prototype and you can actually walk around. You can have a virtual screen. They talk about this being the last screen because, within it, if you wear this goggle, you can have virtual screens that are very, very highly detailed.

I could watch an HD movie in it without any discomfort at all. So, you can have as many screens as you want, and you're interacting with them, but you just take off the goggles and they're gone, which means you can also make them appear anywhere you want. So, this is the future of work, and you can actually have teleconferencing, which is another thing, where you have a virtual person next to you, and that is amazing, and it's something that I would pay like – I don't know – thousands of dollars for, right now, if I could have that.

Tim Ferriss: So, were you, in general, then, more impressed by the augmented reality or mixed reality than virtual reality?

Kevin Kelly: Augmented or mixed reality is the more difficult of the two to do, and if you can do mixed reality, you can do VR just by turning lights out and making it black. So, technically, VR is a subset of the mixed reality.

So, the visual accomplishment of Magic Leap is there, but that wasn't the most amazing experience I had. It turns out that the visual is only 50 percent of your sense of experience. It's the tactile. It's the audio, and the feeling, and using your hands and your body.

The best experience I had that was really amazing was something called THE VOID, based in Utah. They are making an arcade version of VR where they provide all the equipment, and you go and you pay for an experience, say for half an hour. You pay \$30.00 for 30 minutes, and you go in. It's a full vest. You're suited up, and it's amazing. It really is because it mixes the real and the virtual. Let me give you kind of an example.

There's something called "redirected walking." The way redirected walking is is imagine you have your goggle on, you see something inside, and you turn 90 degrees, a hard 90-degree turn to the right. But what you'll see is only an 80-degree shift. They're cheating you 10 degrees, and they can compound that cheat so that you think you're walking in a straight line for a mile across this amazing cityscape –

Tim Ferriss: Oh, but they have you go in a slight arc.

Kevin Kelly: You're going in a circle.

Tim Ferriss: That's wild.

Kevin Kelly: You're going in a circle, and you don't know that. And they can do redirected touching, where you're grabbing things, and you think you're grabbing different things, but it's the same thing. Or even stairs – you think you're walking up the stairs, but it's just stairs that are cycling through.

Tim Ferriss: They're rotating.

Kevin Kelly: Right. And so, they're able to give you a 30-minute where you're exploring this incredible thing, and it's just a little tiny room.

Here's the other cool thing they did. So, you're wearing this vest, this haptic vest that's vibrating and doing all kinds of stuff. They had you go up this elevator, and you're kind of on the second story. It was kind of an *Indiana Jones* demo that I saw.

There was this floor right before you, and it's rocky and not very stable, and you need to get across. And you're walking across, and you fall down two stories, and what happens is you're on a platform that moves 6 inches, but you have just fallen two stories.

Tim Ferriss: Wow! That sounds terrifying.

Kevin Kelly: Well, no, it's exhilarating!

Tim Ferriss: So, does the floor just drop out from under you, like cartoon-style, and then you're like floating for a second, and then you drop?

Kevin Kelly: Exactly.

Tim Ferriss: Oh, my god. I hope they have great waivers.

Kevin Kelly: Of course, it only moves 6 inches.

The point of all this is that there are all these tricks to what we assign our own believability of what is real and where we are. It's just like cinema exploits a trick of our vision. You think Mickey Mouse, which is not a real character, is throwing a baseball, and you think that ball is really moving across the screen, but there's no movement. There's only a series of still images that we can assemble in our brain.

VR is exploiting a similar set of new discoveries so our bodies believe that these things are happening. Our minds know –

Tim Ferriss: Well, it's like going from optical illusions to full-body sensory illusions.

Kevin Kelly: Exactly. And this turns out to be very, very important. And so, what I say is, and what I discovered from looking at this VR is, that we're moving from an Internet of information, where you can get any information anywhere in the world – anybody who lives anywhere can have all the information they want – to an Internet of experiences. This is very, very powerful – experiences. So, it's not just the experience of horror or falling, but all kinds of other experiences that we're going to have.

When you're there, you come out of these VR, and it's not that you remember seeing something. You remember something happening to you. It's a much different presence. In fact, first-person shooter games turn out to be a little too emotionally exhausting when you're in VR.

Tim Ferriss: It produces PTSD if it gets real enough.

Kevin Kelly: Yes. There was this VR documentary of going to a pig slaughter, and you're in the chute with the pigs. People said, "I could watch that, but I can't go through it. I can't be in there." And there was another demo someone had called "Killing the Alien" where you have to stab this alien being, but there's haptic involved and –

Tim Ferriss: What do you mean by “haptic”?

Kevin Kelly: “Haptic” is this term for tactile sense or touch. They call it haptic technology, and it means that when you grab something, there’s a response to it, or you could feel it.

Tim Ferriss: Like there’s a resistance or texture?

Kevin Kelly: There’s a texture. There is a lot of work in how you get the sense that you grabbed something or you could feel something.

Tim Ferriss: How far do you think we are from VR sex?

Kevin Kelly: Well, let me tell you. I had a great one last night! Well, there’s teledildonics.

Tim Ferriss: Teledildonics, where you can remotely integral various sex apparatuses.

Kevin Kelly: I saw these guys who have a technology for what is called “volumetric capture,” 3-D volumetric capture, which means that –

Tim Ferriss: I’m getting all sorts of terrible images in my head.

Kevin Kelly: Right. So, with volumetric capture, they use like seven or more cameras to record a person in all their detail so that when you see them in VR, they’re moving around, and you can see every single hair, and you can see –

Tim Ferriss: I’ve been volumetrically captured before, and it’s –

Kevin Kelly: Live? Or was it a snapshot?

Tim Ferriss: It was a still.

Kevin Kelly: That’s the difference. This is not a still.

Tim Ferriss: No, understood, but even the still was eerie because it was exactly me. It was just mapped. If you zoomed in, you could see these tiny, little grids, and it was like, “Whoa, okay.”

Kevin Kelly: So, the volumetric capture of a live movement is amazing, and you’re in a 3-D presentation of it. I felt uncomfortable even getting close to that person, like you’re in their space. You react to it. They really feel like they’re there, and if they are giving you eye contact

and a voice, you have a total – again, going back to their body, maybe your mind says they’re not really there, but your body is saying, “They are there. That’s them.”

And it turns out, the Second Life is now doing a VR version called Sansar, and it’s a thousand times better than the old Second Life because those avatars are getting their body language from that person. They’re getting the voice, and they have the eye contact. And even if the avatar is not exactly them, you can still see them with their voice, their body movements, and their micro expressions. They’re really there.

Tim Ferriss: When do you think the haptic technology will be at a point where –

Kevin Kelly: Okay, we’re back to sex?

Tim Ferriss: Oh, yeah. Dating in San Francisco’s a real pain in the ass. I can skip the pleasantries and just have –

Kevin Kelly: The reason why I mentioned the volumetric capture is I was saying, “This is amazing,” and I was saying, “Like sex, right?” and they were saying, “Those are the first people who have come to us, all the porno. They were the first to say, ‘We’ve got to have that.’” And I think I heard that Pornhub actually has a VR channel now, or something.

Tim Ferriss: It wouldn’t surprise me. It’s the most popular website in the world that no one admits to going to.

Kevin Kelly: They’ve been way ahead in terms of their use video grammar, summaries, and stuff like that. I haven’t seen it personally, but I think that, to answer your question, I’m sure that, right now, there are probably one or two places that have probably put this together.

Tim Ferriss: If you were a betting man, if you had to be, would you say it’ll be available to those who can afford it in five years?

Kevin Kelly: Oh, absolutely. It’ll be fewer than five years, absolutely fewer than five years. As I was saying, THE VOID is already open. It’s here. To outfit your whole body like this is doable now. I think this is going to be something that is going to be mostly regulated by economics and then the law, like where this is going to –

Tim Ferriss: Things are going to get really, really nasty really quickly.

Kevin Kelly: Like is there someone on the other end, or is this like a simulation? Is this AI?

Tim Ferriss: Are there actors, like [inaudible] [01:24:12]? Are there people who are outfitted with their own haptic suits who you're interacting with, in which case, what types of laws apply?

Kevin Kelly: And if you're in different states, so, yes, I think this will be a very sticky problem.

Tim Ferriss: What are people worried about right now that you think they shouldn't be worried about? The only reason I ask –

Kevin Kelly: What they shouldn't be worried about? Well, I think the idea of the AIs taking over and killing us all – cross that one off. I think they shouldn't be worried about GMOs. Cross that one off.

Tim Ferriss: They should not be worried about GMOs?

Kevin Kelly: They should not be worried about GMOs. We genetically modify all the crops that you're eating. We do them in different ways. We do them through breeding, or whatever it is, but they've all been modified. And actually, if you want to modify crops, modifying their genes with CRISPR is a lot better than trying to modify them with breeding because, with breeding, you have no control over what happens.

Tim Ferriss: It is a much more elegant process. So, CRISPR you're not concerned about?

Kevin Kelly: No. There are things that I am concerned about. In fact, I just saw a documentary last night, which will be released pretty soon. It's called *Zero Days*, and it's very well done. It's not sensational. It looks at the Stuxnet virus, which was a computer virus that was developed by the US and Israel to demolish the uranium processing centrifuges in Iran.

So, the message is that they were looking at, "Can you really destroy physical things with a computer virus?" and the answer is yes. You absolutely can. We're at the point where you can actually affect the physical infrastructure with computers. And then, the question is, "What are the rules for that? Is that an act of war?"

Tim Ferriss: Like the Geneva Convention.

Kevin Kelly: Right. And it turns out that there are no rules, and yet, the US and others are developing these technologies, and nobody wants to talk about them because they're all classified, and therefore, nobody wants to admit to it. Therefore, you can't have the conversation about it. And yet, Iran retaliated. They made the largest cyber army in response to the efforts to take them down, which did not work in the end. So, there already is cyber warfare going on, but it's not being talked about. It's not being admitted. The US government won't talk about the offensive, and there are now all the other countries who are now building capacity.

And what are the rules? Is it okay to disrupt the banking system? There is going to be collateral damage. What's accepted? I think the fact that we don't have any rules for cyber war is something I'm really worried about.

Tim Ferriss: I remember at a conference a few years ago, this very well-respected technologist got up and talked about precisely this, cyber warfare, and some of the scarier scenarios and potential tactics that could be used. For instance, if there were a natural disaster in San Francisco and people went to Google, assuming there was still Internet connectivity, to try to determine how to respond, if someone could initiate the disaster somehow and then also figure out a way to present certain search results that were misinformation –

That's maybe even more elaborate than is necessary. Maybe that's the 007 bad guy, like, "I'm going to leave you here with this sophisticated laser set up while I go have a sandwich, Mr. Bond. I'll see you in 20 minutes," and then he gets away. Maybe it's a lot simpler than that. Maybe it's taking out electrical grids with different types of viruses or electromagnetic pulse weaponry. Or, for that matter, I've been astonished at how vulnerable a lot of this stuff is to just long-range marksmanship, for instance. It's like old technology applied to an increasingly fragile, in some capacities, Internet of things.

Kevin Kelly: Exactly. And then, when you introduce AI into that, as the US Pentagon has just gotten some funding to have AI do these kinds of things, to weaponize AI, basically, I'm also worried about that – kill decisions and this idea that, right now, we have legally mandated assassinations in the US. We have assassinated US citizens.

Tim Ferriss: Could you elaborate on that?

Kevin Kelly: With the drones. The drone program will take out a particular individual. So, we killed what's-his-name? He was an American citizen in Yemen, I guess, and they targeted him, and they killed him. There was no trial. There was nothing. So, we now have assassination. These drones usually have people back in Nevada steering them, and they usually have generals and a whole chain of command involved to do the kill decision. But, increasingly, there is pressure to expand this kind of warfare because you don't have to have troops on the ground.

The American public seems much more sympathetic to sponsoring warfare like this, and as that increases, there's the need to have it autonomous. So, there's a very long feedback loop to come back and have humans decide this and that. If you could have autonomous AI-driven drones that didn't need that, then they could actually be making these decisions. That's scary. That's very scary.

Tim Ferriss: This is also a topic of common debate in Silicon Valley in the AI circles. There are some people who would say, "If you look at Deep Mind or some of these other AI-focused groups in the US, they have ethics committees. They are collaborating with one another to look at safeguards. The real people you need to be worried about are sort of the fast-moving solo acts in places like China and places like fill-in-the-blank who do not have that safety-first mentality."

And people would argue that maybe that's not the case in the US either, in certain places, but if someone were going to cause a big mess with AI, who do you think is the most likely? What are the characteristics?

Kevin Kelly: AI is still so early that I wouldn't hazard a guess, but I do acknowledge, and I would emphasize, that this is a global enterprise. The Chinese are very keen on making AI. The three ingredients you need for AI these days are: these deep neural nets, like Deep Mind; huge farms of GPUs, graphical processing units, which have been commoditized by the video game industry –

Tim Ferriss: Like in video chips.

Kevin Kelly: It turns out that there are parallel processors that are really affordable. So, before, AI was done on supercomputer parallels that would cost millions and millions of dollars, and then it turns out that these little video chips that you make for video games were parallel processing, and they were really cheap. So, now, they buy these big farms of these cheap video game processors.

So, you need lots of those, and then, you need big data. Big data is sort of the rocket fuel. So, companies like Baidu and Alibaba who have big data are actually able to do this kind of AI right now. There's no monopoly on AI right now. China, Europe, and even Japan will all get into this business. I would expect, just given history, that there will be an AI disaster of some sort.

Tim Ferriss: It's inevitable. It's not to say that AI shouldn't be pursued. It's just like anything else.

Kevin Kelly: Right. Someone will abuse it.

Tim Ferriss: If you're going to have large-scale water projects, there is going to be some horrible flood that'll kill a bunch of people, or fill-in-the-blank disaster.

Kevin Kelly: Right. So, we have to be ready for that and not freak out, which is what I think will be one of the tendencies, "Okay, stop AI research. No more federal funding AI." That will also happen, too. People will respond to that by saying we have to stop AI.

Tim Ferriss: If you had to, again, sort of play Nostradamus a little bit, what do you think the first few big wins of AI will be, where people will really step back and go, "Whoa"?

Kevin Kelly: There are two things. I think there will be these huge, huge big wins, but what's very curious about this is that whenever these wins happen, as they have in the past, then immediately we don't call it AI. AI is only what we can't do. What we hope to do is called AI, and once we do it, it's called machine learning.

So, the first big win will be like a translation. We'll have a little device that we can wear in our ear, and it'll hear you speaking Chinese, and it'll whisper English to me. We'll have that in – I don't know – five years or so, but we're not going to call it AI. "No, that's not AI. They're just dumb computers doing this stuff." It's no longer AI. People don't think of Siri as AI. "Oh, that's just machine learning."

Tim Ferriss: "It's just Siri."

Kevin Kelly: Driving the car? That's no longer AI – "Of course computers can drive a car. Of course they can play chess" – because once it happens, it's like, "Of course." That's obviously not AI. AI is sort of always what we can't do.

And so, there will be these wins, like perfect translation, that will be very common, and talking to these assistant bots. That's the other thing. You'll have these conversations, "Let's do this, do that" – Echo –

Tim Ferriss: I was going to say that sounds a lot like an early iteration of Echo.

Kevin Kelly: Right. Is that AI? Do people think of that as AI? "No, that's not AI. That's just Echo," or whatever it is. And so, I think that conversation is the interface, mostly, to AI for a very long time, and we'll get really good at that, and then, I think people will ignore it, or people will become invisible to that. I think most of the AI will be invisible, like we were talking about Amazon Web Services. It's going to be behind-the-scenes. It's going to be very particular. Right now, your calculator is smarter than you are, in arithmetic. It doesn't freak you out, right? That's great. Google is better than you in recall.

So, we have this very specific artificial smartness, and that's where a lot of this is. Most of the AI we're going to make is not like human intelligence. That's why we're making it. The whole point is to think differently, to make things think differently than us. The reason why we want these AI to drive cars is because they aren't driving like humans. They aren't worried about whether they left the stove on or having an argument with the garage. They are just driving better than we can drive.

When Google is remembering all the web pages in the world, that's inhuman. It's not anything we could do. And once we see the machines doing it, we'll say, "Obviously we weren't the only ones who could do that." It's all in retrospect.

Tim Ferriss: Right. This is a total left turn, but do you journal? Is that a practice that you have or not really?

Kevin Kelly: It's an occasional practice. It's something I do occasionally at night, late at night.

Tim Ferriss: When do you do it, meaning what triggers it? What are the occasions on which you decide to journal?

Kevin Kelly: I haven't been able to determine the trigger, but sometimes, I'll just be seized of this, "I need to sit down, and just journal stuff, and write stuff, and doodle." I haven't been able to detect a pattern, but I have a book that I use called *Late Night*, and I usually do it

late at night, very late, and maybe there's a buffer that gets filled or something.

Tim Ferriss: You have to unload it. You have to delete the downloaded folder. "Startup disk almost full. I'd better get this into my journal."

What change in your life, or behavioral modification, are you proudest of in the last, say, year or recent memory, and which habits or behaviors are you trying to change?

Kevin Kelly: Good question. I think it was Mark Zuckerberg who was going to give a thank-you note every day for 30 days, or something. So, this idea of consciously really trying to express gratitude in kind of a disciplined way is something I'm been working on to try to make it more of a habit.

Tim Ferriss: How do you express gratitude? Is it a phone call? Is it a text message?

Kevin Kelly: Generally, it has been in email. I'm not a phone person. I don't like voicemail. I don't like talking on the phone.

I came into my professional life – I was basically noticed online, in writing short, telegraphic, email-ish stuff, so, for some reason, email is my medium, and I'm most comfortable with email.

Tim Ferriss: Gratitude. Well, on that note, I want to thank you for taking time to have yet another jam session. I always have a blast. What are you up to right now? What would you like people to check out? Where can they find you?

Kevin Kelly: So, I have this book that will be released June 6th. It's called *The Inevitable*, published by Viking. It's, I think, a pretty good outline of the technological trends for the next 20 or 30 years. At the highest level, it talks things that we can't ignore and that we really should be embracing. I think that if you're interested in what's coming, you'll really find it very useful because it's not really technical. It's at a high level. If you're looking to where things will be in 20 years, I think I have a pretty good map of where that's going.

Tim Ferriss: So, people can, I'm sure by the time they hear this, grab it on Amazon. Where else? KK.org?

Kevin Kelly: Yes. KK.org is my homepage and where I hang out. There will be links. If you want other languages or the audible version, Kindle, I

think that all should be listed there. I may even have a calendar-ish thing going.

Tim Ferriss: It'll show what you're up to in terms of speaking engagements or whatever.

Kevin Kelly: Right. And in July, I'm going to be doing a bunch of stuff of basically appearing on a gazillion podcasts. I've dedicated that for the month of July.

Tim Ferriss: That is why I like to do mine early.

Kevin Kelly: Yes, exactly.

Tim Ferriss: "Another exclusive *Tim Ferriss Show* opportunity –"

Kevin Kelly: It is. This is an exclusive. I'm so delighted, Tim, that you reached out and made the invitation to be at your glorious home.

Tim Ferriss: I'm thrilled to have you here.

Kevin Kelly: I hope that it was useful to the listeners out there because we did kind of go all over the place.

Tim Ferriss: That's why they come. They come for the OCD plus the ADHD with a dash of, hopefully, definitely, intelligence from my guests and occasionally a glimmer of something approaching semi-intelligence on my part.

Everybody, check out KK.org. It's full of all sorts of things that I've recommended many, many times over the years, including "1,000 True Fans," of course, and much, much more than that, like the Quantified Self. Everything can be found somewhere at the hub that is KK.org.

Where on social media, if somebody wanted to say hello, would be the best place to say hello?

Kevin Kelly: I do look at the Twitter stream, and I'm Kevin2Kelly. I have Facebook, which I don't look at as much, but actually, I do look at Google+.

Tim Ferriss: Oh, you do?

Kevin Kelly: I do because I find that the comments and the conversation on it is very, very high quality. Even though there are not that many people, those who are there are very active, and I pay attention.

Tim Ferriss: So, if they just search “Kevin Kelly” –

Kevin Kelly: Yeah, I’m the Kevin Kelly on Google+.

Tim Ferriss: Perfect. All right, we will put that in the show notes. So, everybody listening, you can find everything we’ve talked about, assuming I can track it down, in the show notes at FourHourWorkWeek.com/Podcast. You can also find links to our previous conversations. We had two very, very fun conversations where we went into a lot of Kevin’s bio and asked a lot of my rapid-fire questions that we’ve already covered previously. You’re going to find that and much, much more at FourHourWorkWeek.com/Podcast.

And, Kevin, thank you very much also for taking the time. I always have so much fun. To everyone listening, as always and until next time, thank you so much for making *The Tim Ferriss Show* part of your daily podcast experience.