Cracking the Curiosity Code

The Key to Unlocking Human Potential

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Chapter 14

Curiosity and Technology

With Google I'm starting to burn out on knowing the answer to everything. People in the year 2020 are going to be nostalgic for the sensation of feeling clueless.
Douglas Copeland

Does technology inhibit or enhance our curiosity?

When I have asked myself or others that question, the answers I got depended on whether I asked people who develop technology or people who consume technology.

The developers of technology said that they find their curiosity enhanced by the infinite possibilities that technology offers. Recall, for example, the evolution of computers over the past fifty years. In the 1960s, computing technology was housed in and mostly developed through large mainframe computers the size of a living room. As the state of the art evolved into the 1970s, the computing power of those large mainframes was condensed into desktop mini-computers a hundredth the size and ten times as powerful. Mini-computers evolved into laptops, which offered the same or more computing power in smaller, more convenient packaging. From laptops, we progressed to tablets and mobile phones, and today we have what's referred to as wearable technology and nanotechnology.

Imagine the curiosity that resulted in the integrated circuit. Imagine Steve Jobs' curiosity around the subject of calligraphy and his application of that curiosity to the creation of unusual computer fonts. That kind of curiosity has continued to drive the question: how do we make computing technology more accessible, faster, more powerful, more aesthetically pleasing, more secure, and more able to solve problems?

Can we even imagine how curious technologists, entrepreneurs, engineers, and bioscientists must be as they pursue the next version of a smartphone, smart kitchen, self-driving cars, or cures for diseases? Whatever the next generation of innovations may be, people will achieve it by combining the infinite wonders of technology with equally infinite doses of curiosity.

When asked how many versions of the iPod there would be, Jobs once responded, “As long as we’re curious, there’s no telling.”

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Despite the spurring of their own curiosity by technology, some creators fear that for the rest of us, the mere consumers and beneficiaries, all the innovations may be lessening our curiosity.

Scott Hanselman, a Microsoft-based web technologist and teacher of computer technologies, views the world in binary terms of those who are curious and those who are not. Possibly deriving from his parents’ lessons in his childhood of a fixed mindset versus a growth mindset, he believes that the more technology advances, the more it seems like magic. This magic eliminates curiosity about how it works.

He asks in a video presentation,[i] “Is twenty-first-century technology making it too easy? Are iPhones so magical sitting atop the last millennium of technology that it’s not worth teaching, or even wondering, how it all fits together?” He clearly defines himself as one who is curious. “I took apart my toaster, my remote control, and a clock-radio telephone before I was ten. Didn’t you?

“What’s the difference between the people who take toasters apart and the folks who just want toast? At what point do kids or young adults stop asking, ‘How does it work?’ Perhaps curiosity is an innate thing; perhaps it’s taught and encouraged, but likely it’s a little of both.

“I hope you’re stretching yourself and others to ask more questions and explore the how and why of the world around you.”

Kishau Rogers is a senior technologist and CEO of the Websmith Group, a corporation that helps organizations take new technologies from conception to commercialization. She suggests that rather than teach children how to code, we should teach them how to think about systems.

“If we simply accept technologies as somehow magically providing us the answers, we have no reason to be curious about how those answers were conceived.” We don’t need to know the intricacies, she suggests, but at least we should understand the basics of how we got there.

Naomi Karten leverages her background in both psychology and technology to help organizations improve customer satisfaction and strengthen teamwork. In a speech, she explained, “It’s the ease of access that seems to be of greatest concern. Kids today can pull up Wikipedia and find page after page of data. But are they learning anything? And the situation isn’t any better for us adults. Consider the news. Instead of reading it daily via print, we can now get the news all day long from our phones, tablets, laptops, and televisions. We have easy access, but are we any more or any better informed?

“There’s an understandable concern that the instant gratification we derive from technology is making us less likely to be curious about increasingly difficult problems. By filling our brains with easy answers, we become less likely to go after complex problems.”

Consumers of technology seem to have a slightly different view.

Fifty years ago, if we were to search for the population of Duluth, Minnesota, we would resort to *Encyclopedia Britannica,* which would most likely be out of date. We would then cross-reference our information with three other sources to verify the

encyclopedia's accuracy. After researching the question for thirty to forty-five minutes, we would have our answer, knowing it still may not be quite accurate or complete.

Today, we have Siri or Alexa or other comparable technologies that will find our answer in less time than it took me to type this sentence.

By the way, Siri told me that as of 2010, the population of Duluth, Minnesota was 86,265, and I didn't have to type this sentence. I dictated it through the wonders of voice activation.

Does that mean that as a consumer of these marvels of technology, a user rather than a developer, I'm any less curious than the developers of the iPad, or Siri, or smart cars? Am I somehow less curious than the bioengineer who tirelessly pursues the cure for Alzheimer's?

Nicholas Carr, author of the book *The Shallows: What the Internet Is Doing to Our Brains,* described the dilemma technology seems to create. "On the one hand, I can now do in minutes that which once required days. On the other hand, I feel I'm not thinking the way I used to."

He continued, "I feel it most strongly when reading. Immersing myself in a book or a lengthy article used to be easy. My mind would get caught up in the narrative or the turns of the argument, and I'd spend hours strolling through long stretches of prose. That's rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, and begin looking for something else to do."[ii]

That's how technology can affect our concentration. Then there's the issue of retention.

Technology may help us to find information more quickly and efficiently, but do we retain that information the way we used to? Many behaviorists, supported by research, argue that the longer the time and greater the effort required to obtain information, the better we retain that information.

So, are we any smarter?

If we want to continue to develop our ability to improve what technology can do for us, we need to open our minds and develop our sense of curiosity.

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Jason Kintzler, CEO and founder of Pitchengine, said on my show that you can create disruptive technology from the most unlikely places. For example, a disruptive technology is when something like Uber unsettles the traditional transportation industry or how Netflix upset the video industry.

Some technologists are working to incorporate a form of curiosity right into technology. For example, developers at the University of California at Berkeley are attempting to create a curiosity-based video game. The team developed an intrinsic curiosity model to make their learning algorithm work even without a strong feedback or reward mechanism. An AI software program employs curiosity-based attributes and logic. The model in the video game controls a virtual agent that seeks to maximize its understanding of its environment and act based on its understanding of that environment.

Efforts such as these are emerging as new directions in the development of AI, recognizing the concern that technology can potentially have a limiting effect on our curiosity.

Astrophysicist Mario Livio presented another slant on the issue. He wrote a book on curiosity simply titled *Why?* There, he reminded us that curiosity is a given, an intrinsic part of our nature. Perceptual curiosity, as defined, is a natural element of who we are, and it can be enhanced by technology.

As he explained, "There are some people who have the feeling that because we have information literally at our fingertips, maybe we're becoming less curious. But that's not true. There are two things to remember. One is that when we do scientific research, we try to find answers to questions where we don't know the answers yet. Therefore, you cannot find those answers on the internet or Wikipedia.

"The other thing the internet allows us to do is to satisfy what has been dubbed specific curiosity, namely you want to know a very particular detail. Who wrote this or that book? What was the name of the actor in that film? The digital age allows you to find the answer very quickly. That's actually good because you don't want to spend all your time trying to answer a question like that."[iii]

According to Kintzler, technology doesn't make us less curious; rather, it makes us more efficient in our search for answers to questions driven by our curiosity.

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Whether technology inhibits or enhances our curiosity, scientists say that we must find new ways to learn in light of the fact that technology is able to provide information so readily.

The Association for Educational Communications and Technology examined that issue. Arnone, Small, Chauncey, and McKenna concluded that while our curiosity, interest, and engagement in

the pursuit of learning has remained essentially the same, how we research and engage information-seeking tasks has significantly changed. They stated, “We need to create new and innovative ways to study and apply curiosity, in light of the availability of pervasive technologies.”[iv]

The company Survey Monkey provides an excellent illustration of the balance between technology and curiosity. This online survey company has grown to be a multimillion-dollar enterprise using its technology to solicit and analyze data, all based on the theme of curiosity.

“Curiosity is one of the things that CEOs need to have in their companies, and also one of the attributes they look for in leaders,” said Senior Vice President of Marketing Communications Bennett Porter. “And that’s really the essence of what people told us they use Survey Monkey for: not to make a decision, but to have enough data to know they were headed in the right direction.”[v]

As CEO Zander Lurie stated, “Not being sufficiently curious is bad for business, especially when a company faces unexpected problems. Often someone in management or a team in management or a CEO didn’t ask the right questions and listen and learn. So we see this big opportunity to help companies turn those voices into actual data.”

Notice how the name “Survey Monkey” is even grounded in the curiosity theme; it’s based on the idea that monkeys are innately curious about the world around them. The company’s marketing also features catchphrases such as “Power to the curious.”

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The chasm between developers of technology and consumers of technology appears to be narrowing. A general consensus was

summarized by Ashok Shah, former vice president of services at Compaq Computer and Lucent Technologies and author of *Emergence of the "Me" Enterprise: A Blueprint for Leadership in the 21st Century*. He wrote, "Whichever side of the fence you are on, the more we can bring curiosity and technology together in an integrated fashion, the smarter we will be."[vi]

[i] https://www.youtube.com/watch?v=y5Rmlnok74o

[ii] https://www.amazon.com/Shallows-What-Internet-Doing-Brains/dp/0393339750/ref=sr_1_1?ie=UTF8&qid=1540563099&sr=8-1&keywords=The+Shallows%3A+What+the+Internet+Is+Doing+to+Our+Brains%2C

[iii] https://drdianehamilton.com/creating-disruptive-technology-with-jason-kintzler-and-self-managing-investments-with-randy-tate/

[iv] https://experts.syr.edu/en/publications/curiosity-interest-and-engagement-in-technology-pervasive-learnin

[v] https://www.fastcompany.com/40440186/surveymonkeys-future-is-focused-on-one-word-curiosity

[vi] https://www.amazon.com/Emergence-Me-Enterprise-Blueprint-Leadership/dp/1619845091/ref=sr_1_1?ie=UTF8&qid=1540563373&sr=8-1&keywords=Emergence+of+the+%E2%80%98Me%E2%80%99+Enterprise