INSIGHTS & INNOVATIONS

Interview with John Werner

"Design has and will continue to play an important role in the adoption of technologies."

– **John Werner**
   Executive in Residence
   Cogo Labs
   Cambridge, Mass

Your father was a significant influence in your life. What's the most important lesson he taught you?

I grew up in New York City. In grammar school, when my dad picked me up from play dates, we would run home together, and we would often take different routes to get there. One of the enduring lessons he taught me was that there are always multiple ways to solve any problem.

My dad also taught me to be curious. In high school, for example, I'd run the length of Manhattan every 4th of July. I didn't time that run or do it to compete, it simply was an opportunity for me to explore, and to experience New York City's different neighborhoods. In college, I spent time in the library's archives studying the school's history. Then I would lead campus tours and share what I had learned. I'm still curious about everything, and enjoy sharing ideas and experiences with others.

You've had a very diverse career path. Has there been any underlying strategy to it?

For decades, people would move from job to job, and your resume was your ticket up the ladder. But our society has changed. In the Gig economy and the age of WeWorks, people are more comfortable creating their own careers, and I may have been ahead of the curve in that regard.

I've never formally applied for any job. I've always created jobs for myself. However, there has been a non-linear theme to my career path. I like to build things, and to connect people and ideas in an opportunistic manner. I'm always patching different people into my phone conversations. As a community builder, I seek ways for people to collaborate. For example, in Boston we hacked the TED Talks format to give people opportunities, before and after the events, to engage with the guest speakers in meaningful ways. We've also created digital assets designed to live long beyond the events, and to create community. We've had more than 500 speakers and 100 million online views of their presentations.

I'm not a professional, but I have a passion for photography, and carry a camera everywhere. Taking pictures is more than a hobby; it serves an important role in my life's mission to connect people and celebrate

the things they care about. To date, I've posted more than 500,000 of my photos 250,000 of my photos on my photography website, which has had more than 20 million views.

Teaching appears to be part of your DNA. What would you change about how children are taught in public schools?

Early in my career I taught public school in Boston, where middle schoolers got out at 1:30 in the afternoon because of transportation logistics, which was crazy. So with some others, we started Citizen Schools, a network of after-school programs where the city of Boston was the classroom, with a faculty of people who taught things they were passionate about. It's still a successful program, and it's helped thousands of students.

Public schools need to teach kids to become lifelong learners and to remain curious about the world. They also need to teach them to be self-directed and to collaborate with others. It's also important to foster risk-taking in schools, as a means to build self-confidence and to learn from failure. Unfortunately, the public education system is not built on these concepts or making them priorities. It also appears as though the current generation of students is far more risk averse, regardless of how they're taught in schools.

How does Augmented Reality (AR) move from its perception as entertainment, to recognition as a serious scientific discipline?

People often confuse Augmented Reality (AR) with Virtual Reality (VR), and there's a very big difference. Virtual Reality, used in many gaming applications, offers digital re-creations of real life settings; while Augmented Reality delivers virtual elements as an overlay to the real world.

For context, there are 3 major waves in which we've interacted with technology over the past 40 years: first desktop, then laptop, and now mobile. The next wave will involve contextual computing, which is at the heart of AR, allowing humans to be totally immersed in an activity. With AR, all of the senses can be engaged – sight, sound, smell, touch – enabling people to create holograms, interact with charts and graphs in 3D, walk around places and objects with over-layed information, and to give feedback and manipulate those objects.

Will AR make Smart Phones obsolete?

In 5 years, the Smart Phone will begin to be replaced by a strip of glass we wear that enables us to interact with the world and collaborate with each other in game-changing ways. We're very close to a brain / computer interface, although ethical issues related to adoption still need to be addressed.

There are 4 key factors converging that will drive this major technological shift:

o Moore's Law: Computer chips will continue to get faster.

o Control: We'll move from "explicit" control (hitting keyboards, for example) to "implicit" control. A brain computer interface will read your mind and commands.

o Connectivity: We currently have 4G. The next generation, 5G – which is more than 1,000 times faster – is being rolled out now, and will be available everywhere.

o Content: We are moving from 2D content (in photos, movies, etc.) to 3D content, similar to lidar mapping devices in self-driving cars. This change is not linear, it's exponential.

These factors are being accelerated by the thousands of startup companies trying to figure out commercial applications. Eventually the hardware – whether it's a headset or smartphone – will become a commodity. The economic value will be in the software, the content, and the transaction; that's going to be the business model, not the hardware. I believe AR is going to be a $100 to $200 billion market in the next 5 to 10 years.

What role does design play in an AR-driven world?

Design has and will continue to play an important role in the adoption

of technologies. Historically, however, engineers, designers and practitioners have operated in a siloed fashion, with very little collaboration. Very often, design also gets shortchanged, in terms of voice.

If you look at Apple – one of the world's greatest technology success stories – design is what drove that company's competitive advantage and market adoption. Apple was not necessarily an early adopter of technologies, but they understood when and how to transform the technology through design.

Designers need to have a place at the table. In turn, everyone needs to think of themselves as a designer and learn the basic elements of design to become life-long designers. This is particularly true in an age where people have more access to design tools through the internet, as well as access to 3D printers, the ability to build holograms, and increased ease of fabrication. Design ensures that the human dimension does not get lost in the technology.

Can we count on science and technology to save our environment?

I heard an alarming prediction recently from a respected AI expert who said our species will be unable to survive climate change, and will be gone in 100 years. But we are a resourceful society, and I believe that pendulum will shift, and beneficial changes will come out of the current conditions. People are glued to their screens right now, but I think they will eventually become overwhelmed by technology, and revert back to a focus on the natural world. I'm also hopeful that people will become less materialistic, and seek experiences rather than things.

Scientists and engineers will play an important role in addressing environmental problems, but they need a far greater voice that's not hampered by politics. We also need people who can study cross-disciplines, because it will take a significant amount of collaboration to address the current challenges on our planet.

You have a very broad and diverse social network. Have you thought of running for office?

I have been involved in politics indirectly. For example, I've helped two friends run for public office in Massachusetts, for governor and U.S. Senate. I think politics can be a means to communicate and to get things accomplished. But I believe that being a community organizer at the grass roots level transcends politics. My mission is to celebrate people and bring them together. That's the space I'll continue to live in.

Do you still maintain your All-American status as an athlete?

My athletic fitness levels over the years looks a sine wave. I ran in college, but after graduation I worked 6 days a week and stopped exercising. Then, after attending a wedding where I saw a friend who's an athlete, I was motivated to get back in shape again, and started to train and compete in triathlons. During that period, I participated in 10 Ironman competitions, 75 Half Ironman events (Ironman 70.3), and many other events.

After I joined the MIT Media Lab, and began traveling to India every quarter, it became difficult to maintain my status as a serious athlete. I would run or bike to work for training, but family life became and remains a priority, and my Ironman career came to an end. I don't like going to gyms or using machines to stay in shape, but recently my wife and I have been running together, so I'm into another phase of fitness now.

John Werner Biography

John Werner's reputation as an innovator is built on a diverse career – spanning many fields and interests – that's involved bringing ideas, networks and people together to generate powerful results. Currently, John serves as an executive-in-residence at CogoLabs, a startup accelerator in Cambridge, MA.

Previously, John was a VP at Meta, a Y Combinator augmented reality startup based in Silicon Valley; served as the Head of Innovation and New Ventures at the MIT Media Lab's Camera Culture Group, and was the Managing Director of Emerging Worlds SIG.

John is the Founder & CEO of ARIA, a community focused on the potential of augmented reality and the Blockchain+AI+Human, which takes place at MIT and the World Economic Forum with MIT Professor Sandy Pentland. John also founded Ideas in Action Inc., a non-profit that creates and produces TEDxBeaconStreet, whose 700 speakers have accumulated more than 200 million YouTube views.

A graduate of Hamilton College, John is a passionate photographer and an accomplished triathlete.