Tuesday, March 10, 2020 was the day that Harvard students woke up to the news: campus was officially shutting down. The entire student body had 5 days to pack up their lives, say goodbye to their classmates and professors, and leave. Uncertainty was the overwhelming theme of the days that followed. How long would the campus shutdown last for? What did this mean for graduation? How could classes continue? What would virtual learning even look like? When would we return back to “normal” life? And how could we, as students, do our part to contribute to pandemic related responses and innovations?

Harvard Ventures is the leading undergraduate-focused, student-run entrepreneurship and venture capital organization. The mission is to encourage active, informed, and meaningful participation in startupland by empowering students with the skills, relationships, and resources they need. In short, Harvard Ventures is a community of builders. And Harvard Ventures members like to solve big problems by building big solutions. COVID-19, however, presented global, unprecedented problems, and it can seem daunting to find ways to innovate solutions in light of these current events.

The team at Harvard Ventures sought for small ways to do our part in continuing to serve the student body – even virtually. Thus, The Bottom Line podcast was born. The Bottom Line is a podcast about entrepreneurship, innovation, and everything in between. Given that students are learning from home, Harvard Ventures hopes to continue to push out meaningful content in a digital context. And given that executives, founders, investors, and other creators are also working from home, these individuals have increased time on their hands to participate in our interview series. Combine these two facts and the power of cold email, and Harvard Ventures was able to secure Mark Cuban as the podcast’s first guest. Following guests have included Gary Cohn, Arianna Huffington, Wendy Kopp, and many more.

COVID-19 is indeed a big problem, bigger than most of us can even comprehend. And a podcast may feel like just a small solution. But it has reenergized the Harvard Ventures community to focus efforts on a new project, democratized lessons from some of the world’s greatest thinkers to be accessible for all students across the world via Spotify, Google Podcasts, Apple Podcasts, or Anchor, and served as proof that pivots can happen quickly; it is possible for innovation to rise out of unfortunate circumstances.

Although they represent but a small subset of the inventors of the world, our guests represent a class of entrepreneurs who have succeeded in the face of difficulty. Here, we outline the opinions and advice of several experts in startupland as it pertains to pivoting in response to the “new normal.” We hope that their insights will serve to invigorate our community at large and to encourage innovation despite times of difficulty.

Necessity Is the Mother of Innovation

Although first coined by Plato in *The Republic* during the 4th century BCE, this proverb represents a common theme in our conversations with thought leaders and big thinkers in the field of entrepreneurship. Anne Dwane, co-founder and partner at Village Global, an early-stage venture capital firm backed by some of the world’s most successful founders including Bill Gates, Jeff Bezos, and Mark Zuckerberg, likened today’s circumstances to a Sputnik Moment: a time in which we are faced with an interdisciplinary challenge and must put human minds together to share knowledge in unprecedented ways. Through her experience in co-founding Military.com, a network for service members and veterans, during the cash-constrained economy in 1999, Dwane learned to leverage turbulent times into growing her business. In 2004, Military.com was acquired by Monster Worldwide, for $39.5 million.

Like Military.com, Ginkgo Bioworks, synthetic biology unicorn startup founded in 2009, found success during an economic recession. In Episode 3 of The Bottom Line, current Ginkgo Strategy Manager, Andy Gonzales recounts the hard work Tom Knight, Jason Kelly, Reshma Shetty, Barry Canton during the founding of Gingko. Although biotechnology ventures are notoriously expensive and capital intensive, Ginkgo founders were able to reduce the barriers to entry by dumpster diving at MIT for used laboratory equipment and scouring eBay for pipettes. According to Gonzales, this mindset continues to prevail in the company’s DNA.

In the words of Mark Cuban, “heroes are made during times of uncertainty.” Despite not knowing beyond doubt what the future will have in store, these heroes have a vision for what the world will look like on the other side of the pandemic and start businesses in anticipation of these challenges.
For many, the post-COVID vision of the world will demand innovation in the fields of personalized medicine, personalized security, and the highly adjacent field of artificial intelligence. According to Cuban, the ability to tackle current and future pandemics will require the use of personalized solutions according to how the disease impacts individuals and communities. A particularly alluring facet of this solution is the prospect of widespread antibody testing to inform decisions of both individuals and governing bodies pertaining to social distancing protocols and other restrictions according to health status. The importance of developing new ways to collect and share healthcare data seems to be a common belief of Cuban and Gonzales, as well as Bob Langer, a pioneer in the field of chemistry and most cited engineer in history, and Gary Cohn, former White House Chief Economic Adviser and President of Goldman Sachs.

Despite physical and emotional stress caused by the current circumstances and concern for the future, it is important to pivot quickly as businesses and individuals and do our part to combat the pandemic. For some, existing projects have lent themselves well for applications in COVID-19 response. For example, due to the fundamental changes that now face the field of biotech, Ginkgo Bioworks has paused non-COVID work and has been working to orient their next-generation sequencing platform to analyze samples from COVID-19 positive patients. In Episode 5 of The Bottom Line, we interview Bob Langer, academic co-founder of Moderna Therapeutics, who speaks to Moderna’s status as the current front-runner in the development of a COVID-19 vaccine. In particular, Moderna’s experience with mRNA-based technologies has allowed them to repurpose their systems and rapidly produce mRNA vaccine candidates for COVID.

However, for those who may feel powerless to the pandemic born of biology, remember that innovation can be born of uncertainty. To channel the negativity in the world into something positive, Anne Dwane recites the words of J.K. Rowling: “rock bottom was the solid foundation upon which I built the rest of my life.” We hope that through these lessons, we can re-energize our community and build solutions up from rock bottom.